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ARMY TUBERCULOSIS EXAMINATIONS.

BY HORACE GRAY, M.D., BOSTON,

First Lieutenant, M.R.C.

WHOLESALE examination of more than 20,000 men in various parts of a large cantonment needs the coöperation of so many persons who, unfortunately, have to be interrupted from their regular and different work, that memoranda of the many small things to be done seem conducive to speed and uniform results, even though at first glance they appear unduly fussy. Some of the following details are quoted from three articles,* out of the many recent ones, while most are compiled from the somewhat varying methods used by members of the Special Tuberculosis Board which was busy from November, 1917-January, 1918, examining the command at Camp Devens. The first form is not a literal copy of the official memorandum actually issued, but is a revised model which might be suggested on the basis of experiences during the work. Some of the following memoranda will, no doubt, need considerable revision to conform to official instructions issued between the time of meeting and appearing in print.

* Francine, A. P., Price, J. W., and Trudeau, E. B.: Jour. A. M. A., Dec. 22, 1917, p. 2110.
Downing, A. F.: BOSTON MEDICAL AND SURGICAL JOURNAL, Feb. 7, 1918, p. 177.
Cronin, M. J.: BOSTON MEDICAL AND SURGICAL JOURNAL, Feb. 7, 1918, p. 187. This writer seems to interpret systolic heart murmurs more by insurance statistics than by S. G. O. Circular 21.

MEMORANDUM I.

Division Surgeon's Office,
Headquarters 76th Div., N.A.C.,
Camp Devens, Mass., Jan. 3, 1918.

To all Unit Commanders:

1. The following instructions relative to tuberculosis examinations, to be conducted simultaneously in different parts of the cantonment by five (5) Tuberculosis Boards, are published for the guidance of all concerned.

2. Beginning Monday, Jan. 7, 1918, the commanding officers of the 301st, 302d and 303d F.A., and 301st and 302d Inf. will have their men in quarters at the following rate: about 40 men at 8 a.m., 40 at 9, and 40 at 10; and again at 1, 2 and 5 p.m.; daily except Saturday afternoons, Sundays and official holidays.

3. Companies will be detailed consecutively, not simultaneously.

4. Quarantined companies will be examined like the rest.

5. A nominal list (roster) of all officers on each staff, arranged by rank; of each regiment, arranged by rank; and of enlisted men in each

company will be furnished by that unit to the Board. Each list will be typewritten, in strict accordance with the detailed directions and samples furnished herewith.

6. Before examination each officer or soldier will fill in and sign a history blank. These blanks will be prepared by manifold in this office, from which they may be obtained by the regimental adjutant.

7. Quiet is essential to satisfactory examination, therefore:

(*a*) The place will be the quietest available, usually upstairs in quarters.

(*b*) At least two non-commissioned officers will be in attendance from 8 a.m. to 1.30 p.m. and from 1 to 4.30 p.m. to see that men walk quietly on the stairs and make no other noise in the neighborhood.

8. The service records will be brought to the examining room, in order that as each man is passed his record may be stamped: "Examined for tuberculosis and passed."

By Command of Brigadier General ——.

—— Major F.A., N.A., Adjutant.

MEMORANDUM II.

To the Members of the Tuberculosis Board:

1. The Tuberculosis Board will consist of the president (usually a major) and of five (5) local boards (usually called Board 1, Board 2, Board 3, Board 4 and Board 5).

2. Each Local Board will consist of three (3) medical officers (usually one captain and two lieutenants), of whom one (usually the captain) shall be appointed president of the Local Board by the president of the whole board.

3. To assist each Local Board the Division Surgeon will appoint a sergeant and three (3) men of the Hospital Corps, of whom one shall be competent to typewrite the necessary reports.

4. All members of the Board shall

(*a*) Familiarize themselves with the Board president's typewritten orders from the S.G.O.

(*b*) Familiarize themselves with Circular 20 (Lungs) and preferably also Col. Bushnell's article in the *Medical Record* or *Military Surgeon* for June, 1917), and also Circular 21 (Hearts).

(*c*) Familiarize themselves with the other memoranda herewith, viz.: Memorandum to C.O., Memorandum to Company Clerks, Memorandum to Sergeant Hospital Corps, Memorandum to Men Being Examined.

(*d*) Discuss within the first few days of the work the nomenclature to which they have been accustomed to use in recording their findings, and agree so far as practicable on uniform terms.

(*e*) The following abbreviations are suggested: right, (R.); left, (L.); apex, (A.); upper lobe, (U.L.); middle lobe, (M.L.); lower lobe, (L.L.); breath sounds, B.S.); broncho-vesicular breathing, (B.V.B.); bronchial breathing, (B.B.).

(*f*) *Not* notify the men examined of any abnormality which may be found; too often this results only in making the man neurotic and a plague to the regimental surgeon.

(*g*) "Six hours a day is a full day for this work if done as a routine. Each examiner should examine not less than sixty (60) nor more than seventy-five (75) new men a day. While the foregoing does not seem numerically a great deal or the hours very long, yet when one does it continuously day in and day out, and with attentiveness, it makes a very adequate and even exacting working day." (Price *et al.*)

(*h*) Either wear a gauze mask or take particular pains to avert the face. Six members of this Board were put to bed each for from three to seven days by throat infections. Weaver reports marked results from "masks of a double thickness of gauze, so shaped as to fit closely over the face from the chin well up over the nose, and held in place by two tapes tied behind the head."

(*i*) "Avoid sore ears by not continually pulling out and readjusting your ear pieces." (Downing.)

5. Each local president shall, in addition:

(*a*) See that the adjutant of each regiment is provided on the day before examination with the four memoranda, each in sufficient quantity.

(*b*) See that the rosters turned in by each regiment have been correctly made, and if not return them for rewriting.

(*c*) Instruct the Hospital Corps men in their duties, including history-taking.

(*d*) Record daily on the blank prepared by

the president of the whole Tuberculosis Board—

(I) The number of examinations done on that date by his Local Board.

(II) The total number of examinations up to date.

6. The report from the tuberculosis specialist in the cantonment to the president of the Tuberculosis Board will be a carbon copy of Form A, so fast as he prepares it for the S.G.O. When this form reaches the president of the Board he shall call a meeting of the local presidents with their rosters and furnish them with the diagnosis and disposition of each man who has been referred to the specialist. When the disposition of a man has been "Duty," the local president will simply put a check before his name on the roster as if he had never been held up. If the disposition has been "S. C. D." those initials will be marked before the man's name.

7. After all cases have been accounted for from Form A, each local president will have typewritten the following lists:

(*a*) On each roster, page 1, typewrite the names of the absentees.

(*b*) On each roster, last page, type the summary and figures.

(*c*) Make a list of S.C.D.'s by regiments in triplicate.

(*d*) Make an aggregate absentee sheet in triplicate.

(*e*) Make an aggregate summary sheet in triplicate, Form B.

MEMORANDUM III.

To Company Clerks:

Nominal List for T.B. Board.

This roster is required by the War Department, Surgeon-General's Office, to be uniform for the different organizations throughout the division, as follows:

1. Size of paper to be the same as this: 8 x 10½ inches.

2. Grade of paper to be the same as this; letter paper, not onion skin or mimeograph paper.

3. Triplicate.

4. Headings (address, date, company, rank, name, etc.) to be like accompanying specimen.

5. Type (capitals, small letters, underlining, etc.) to be like accompanying specimen.

6. Spacing to be like specimen. Use of dividers is advised.

7. Surnames to be put first, among officers as well as men; and followed by one name in full (*e.g.*, Smith, John W.—*not* J. W. Smith).

8. Officers of the entire regiment or corps, whether headquarters staff, company, or attached, are to be put on a single list, arranged in dictionary order under each rank.

9. Enlisted men to be in same order as their service records in their Company Orderly Room, either alphabetically under each rank, or in one alphabetical list with rank after the name.

10. Absentees to be included—*not* grouped separately.

11. Names *not* to be numbered.

12. Pages are to be numbered, at bottom in the middle; including page (1).

13. On each subsequent page repeat the heading, like page (2) of specimen.

14. On last page, right lower corner, put T.B. summary, as per page (3) of specimen.

15. The company clerk, or whoever typewrites this roster, will initial these directions, clip them together with the specimen and the triplicate, and have them at the headquarters of the Tuberculosis Board before noon on the day prior to examination.

16. The company clerk will, on the day of examination, make out a list of absentees for the company commander.

SPECIMEN NOMINAL LIST, MEN.

Roster of Battery C, ——Field Artillery, Camp ——, Mass., Jan. 3, 1918.

Names,

SERGEANT,

Cedar, William E.

Chisholm, Ralph

etc., in dictionary order.

CORPORAL,

all alphabetically.

PRIVATES,

all alphabetically.

This summary to go only on the last page of the roster of the enlisted men of the company:

Total number men examined .....

Total number T. B. .....

Percentage T.B. .....

Signed .....

M.R.C.

SPECIMEN NOMINAL LIST, OFFICERS.

Roster of Officers, ——Field Artillery, Camp ——, Mass., Jan. 3, 1918.

Names,
COLONEL,
Doe, John
LT.-COLONEL,
Brown, William
MAJOR,
Black, Thomas N.
Rowe, Robert
White, Richard S.
CAPTAIN,
all in regiment, alphabetically.
1ST LIEUTENANT,
all in regiment, alphabetically.
2D LIEUTENANT,
all in regiment, alphabetically.

Total number officers examined .....
Total number T.B. .....
Percentage T.B. .....
Signed .....

M.R.C.

MEMORANDUM IV.

To the Sergeant Hospital Corps:

1. Each examiner should have one enlisted man of the Hospital Corps in attendance.

2. Each man to be examined to be given a pencil and a history blank.

3. See that he is assisted in filling it out.

4. Tell him to read Memorandum V.

5. Keep each examiner supplied constantly with one man for examination and two more watching close by.

6. If the examiner finds both heart and lungs normal he will mark the history blank "O.K.," put his initials on it, and send the man out. The sergeant will take up the history sheet, stamp it and the service record (at paragraph 11, page 5), and put a check before the man's name on the roster.

7. If, however, the examiner finds any abnormalities in heart or lungs he will note his findings on the history sheet and pass it to the H.C. man in attendance. He will take care that this is not examined by the soldier, but will present it and the man for examination to the president of the Local Board. If he thinks necessary, he will consult the third member of the Board. The examinee will then be either (*a*) O. K.'d, or (*b*) instructed to report to the Board for re-examination, on a specified date, at some central point, usually the regimental infirmary. In this case the hospital sergeant will put nothing before the man's name on the roster and after it will write "Re-ex. + the date," and he will keep this history sheet in a separate clip; or (*c*) instructed to report to the regimental surgeon the following morning at 8 a.m. In this case the hospital sergeant will put nothing before the man's name on the roster and after it will write, "Base T.B." He will keep the history blank and physical findings and put this paper in an envelope addressed Major X. Y. Smith ——, Tuberculosis Specialist, Base Hospital, Camp Devens, Mass., through Regimental Surgeon, —— Inf. At the end of the day he will deliver this envelope to the Regimental Surgeon.

MEMORANDUM V.

To Those Being Examined:

1. Strip off all clothes above the waist.
2. Step up close to the doctor; stand at ease, with muscles relaxed.
3. Put left hand on hip.
4. Turn head to the right.
5. Hold handkerchief with right hand to your mouth so that you will not breathe in his face.
6. Breathe entirely through your mouth.
7. Breathe way out; cough (only a small cough; only one cough; only *after* breathing *out*).
8. Change hands; breathe out; cough.
9. Left about, face; breathe out; cough.
10. Step aside for the next man. Meanwhile hop 100 times on your left foot and then return to the doctor.

SPECIMEN HISTORY BLANK.

Name (print, with last name first):

.....

Organization:

Btry. .....F.A. .....Eng. .....
Co. .....Inf. .....Dep. Bg. .....
Troop .....Cav. .....etc. .....
Home address .....
Previous occupation .....
Date of arrival at Camp Devens .....

F. H. Have any of your near relatives had consumption? If so, state relationship and whether death or recovery occurred. By near relatives is meant parents, brothers and sisters, or wife.

P. H. Have you ever had pleurisy with fever? If so, give year if possible. The chief symptom of pleurisy is sharp pain in the chest, increased by breathing and lasting days or weeks.

Have you ever coughed up blood or blood-streaked sputum. If so, when?

Have you ever had a cough lasting a month or more? When?

Have you had a recent cold with cough?

Have you ever had night sweats? If so, when?

Had you lost or gained as much as 5 lbs. weight during the six months *before* coming to Camp? If so, how many pounds?

How much weight have you lost or gained *since* coming to camp?

Have you lost or gained strength since coming to Camp?

Have you ever had rheumatic fever or St. Vitus dance? When?

Are you short of breath on slight exertion, such as walking upstairs?

Signed .....

SPECIMEN DAILY REPORT.

Camp Devens, Mass.,
——1918.

From: ———, President Local Tuberculosis Board No. 2, examining at barracks of B Company, 301st Infantry.

To: ——, {Tuberculosis / Cardiovascular} Specialist, Base Hospital, Camp Devens, Mass.

Through the Regimental Surgeon.

Subject: Examination of chest.

1. The following abnormalities found today are referred for study:

Name (surname first) .....
Organization .....
Findings .....

Lt. M.R.C.

(Plenty of these forms may be mimeographed before the work begins, then each day a triplicate will be filled in by the Local Board:

1. Original, with histories pinned on, to reg. surg. for transmission to base.

2. A carbon, with histories pinned on, to president whole T.B. Board.

3. A carbon, with histories pinned on, for president Local T.B. Board to keep.)

A STUDY OF THE PHYSICAL CONDITION OF ONE THOUSAND DELINQUENTS SEEN IN COURT.

By V. V. Anderson, M.D., M.A.,
Medical Director, Municipal Court of Boston;
and
Christine M. Leonard, M.D.,
Assistant Medical Director, Municipal Court of Boston.

The original purpose of this study was to determine what part—if any—routine physical examinations might play in the disposition of a delinquent's case in court, and later in the institution of reconstructive measures while on probation. Such a consideration seemed clearly worth while, particularly in view of an ever-widening scope of interest manifested by the court in the needs, as well as the deeds, of the individual delinquent.

The old and archaic conception of the judicial function as one limited purely to the determination of guilt or innocence; and in case of guilt, the imposition of fines and sentences, has fortunately disappeared along with other equally archaic and fruitless theories. In its stead we have come to realize that the essential problem facing the court in connection with any individual who has offended against the law and order of society is the problem of readjusting that person to society.

It needs little argument to show that in order for the court to attain an adequate readjustment of any delinquent it must take into consideration all the facts in the case; it must take into consideration the individual and his needs, and deal understandingly with the offender, as well as legally with his offense.

In the accomplishment of this function the court may employ certain tools—most important of which are probation and penal treatment.

In probation it possesses an agency of far-reaching usefulness in this direction, whose capacity for effective service in readjusting human individuals, in restoring delinquents to the community, safe and free and capable of taking their part in the complex demands of social life is scarcely realized; and yet the keenness, the sharpness and the efficiency of this tool can be dulled and impaired by improper use. For, with the opportunity to rehabilitate and readjust himself while on proba-

tion, there should go in the case of every delinquent an intelligent understanding of what is required to accomplish this rehabilitation.

The vital importance of the physical condition in this connection, particularly in relation to his economic efficiency, his ability to support himself, cannot be overestimated. It needs little argument to show how exhausting physical diseases can so impair one's economic efficiency, so hamper one's ability to earn a living, as to render him a social misfit, causing him to drift from place to place, lowering his resistance to alcohol, drugs and such, and, in short, bringing about the very conditions that probation should seek to prevent.

But that which is of most far-reaching importance in this connection is the necessity for seeing to it that the delinquent be not a danger to the community. Reference is made to certain communicable diseases, regarded as dangerous to the public health—from which offenders in court are commonly suffering. We refer to venereal disease, considered in many quarters as the most serious menace facing the human race.

It is clearly the duty of those having to do with delinquents to see to it that these conditions are sought out and treated, if such individuals are to be returned to the community.

With the aim in view of showing the practical relationship of such facts as those above mentioned, to the routine work of the court, the following study was undertaken.

Records of the last 1000 cases examined were taken from the files, and the physical condition of each person noted, also the relationship which his physical condition bore—if any—to his economic efficiency. Case records of both men and women were included in this series.

Additional tables of a group of six hundred consecutive venereal studies are included.

The following table gives a general picture of the physical health of these 1000 individuals. Those rated *good* were practically free from any condition that might impair health. Those rated *fair* were suffering from minor ailments of little consequence to general health, and produced very little impression on the physical strength of the individual. Those rated *poor* were sick people, and urgently in need of medical treatment. Those rated *bad* were emergency hospital cases.

TABLE I.

SHOWING PHYSICAL CONDITION OF 1000 DELINQUENTS IN COURT.

Good physical condition	203
Fair physical condition	455
Poor physical condition	327
Bad physical condition	15

668 individuals, or 66.8% of our cases, were in good or fair health.

342 individuals, or 34.2%—one out of every three persons—was in poor or bad health, and in such physical condition as to warrant urgent medical treatment.

Just what relationship these figures bear to adult offenders as a whole, it is hardly safe to state. It is interesting, however, in this connection to refer to a recent study of immoral women, made by the writer, in which 44% of the women were in poor or bad physical condition from diseases other than venereal (tuberculosis, asthma, Bright's disease, heart disease, etc.). Should anything like such findings be borne out in a study of other groups of adult offenders, then our above estimate among these 1000 cases (34.2%) could hardly be considered extravagant.

Following is a partial list of the conditions from which these individuals were suffering:

TABLE II.

SHOWING A PARTIAL LIST OF PHYSICAL CONDITIONS OTHER THAN VENEREAL, FOUND AMONG 1000 DELINQUENTS.

Abscesses	25
Skin diseases	150
Diseases of nervous system	200
Heart disease	100
Bronchitis (acute and chronic)	144
Tuberculosis	25
Pregnancy	28
Pyorrhea	50
Pelvic conditions in women (salpingitis, uterine prolapse, etc.)	26
Thyroid disease	20
Rhinitis	38
Enlarged tonsils	65
Glandular enlargements	60
Injuries and diseases of bones and joints (arthritis, ankylosis, fractures and spinal curvature)	65
Arteriosclerosis	30
Varicose veins	45
Tumors	15
Ulcers	20
Carious teeth	150
Defect and diseases of eye	125
Defective hearing	90
Laryngitis	25
Tonsillitis	13
Stomatitis	10
Bright's disease	7
Paralysis	3

Other conditions, such as hydrocele, rectocele, varicocele, cysts, etc., were found.

Something more than fatherly talks, intelli-

gent advice, general supervision and securing employment is needed to solve the problem presented by the delinquent whose physical endurance is rapidly diminishing under a progressive Bright's disease or tuberculosis, or the delinquent who is scattering broadcast into the community syphilis and gonorrhea. These are conditions of which he may be entirely unaware, and yet which are of more vital importance to his future welfare and that of the community in which he lives, than any other consideration.

Probably one of the most important measures utilized in rehabilitating the delinquent on probation is steady employment. The following table will give some idea of how these 1000 delinquents have demonstrated their ability in this direction. About 626, or 62.6%, were considered self-supporting, while 374, or 37.4%, were not self-supporting.

TABLE III.

SHOWING ECONOMIC EFFICIENCY OF 1000 DELINQUENTS SEEN IN COURT.

Regularly employed	243
Irregularly employed	383
Odd jobs	90
At home	146
Never worked	138
	1000

In this connection it is well to bear in mind that 66.8% of these 1000 individuals were in good or fair health, and that 34.2% were in poor or bad health. Some correlation between the two seems evident. This is brought out more clearly and in detail in the following table:

TABLE IV.

SHOWING RELATIONSHIP BETWEEN PHYSICAL CONDITION AND INDUSTRIAL EFFICIENCY OF 1000 DELINQUENTS.

	REGULAR	IRREGULAR	AT HOME	NO WORK	ODD JOBS	TOTAL
Good	121	68	11	1	2	203
Fair	114	262	37	18	24	455
Poor	8	53	95	111	60	327
Bad	0	0	3	8	4	15
Total	243	383	146	138	90	1000

Thirty-five per cent. of those found to be in good or fair physical condition had been steadily employed, while only 2% of those found to be in poor or bad physical condition had been steadily employed.

Eighty-five per cent. of those found to be in good or fair physical condition had been and still were self-supporting, while only 18% of those found to be in poor or bad physical condition had been and were still self-supporting.

The chances for being self-supporting were more than four to one in favor of the individual in good physical condition.

Ninety-six per cent. of those regularly employed were found in good or fair physical condition, while only 3% were found to be in poor or bad physical condition.

Eighty-six and three-tenths per cent. of those who were rated as "never worked" were found to be in poor or bad physical condition, while only 13.7% were found to be in good or fair physical condition.

That there is a relationship, and a very definite one, between an individual's regularity of employment and his physical condition seems to require no further argument. So high is this correlation, that one can, without fear of denial, assert that really successful probation presupposes a knowledge of the physical condition of the delinquent in advance of his treatment. And, further, really successful probation finds a rather close correlation between an individual's physical rehabilitation and his moral readjustment.

There is another and darker side to this question,—one which is of special importance to the court in fulfilling its protective function to the community, particularly in view of the recent stand taken by the National Government as to the seriousness of the menace which this condition referred to presents. We have in syphilis and gonorrhea two well-recognized dangers to the health of the community—two diseases fraught with the most serious consequences to the individual and to the race.

Every effort of our national, state and local health authorities is now being bent in the direction of placing those infected under treatment.

It goes without saying that of all institutions, our courts, because of the very nature of their position in the community, are not only willing, but anxious, to coöperate in this direction.

With a view to determining the extent of the problem presented by these two diseases as found amongst delinquents in court, a group of six hundred (600) consecutive cases were gone over. The cases selected represented the average daily "run of the mine," inasmuch as it is the policy of the medical service of this court to make a venereal study of every offender referred for examination, no matter whether there is any suspicion of past venereal infection or not.

The frequency with which these conditions

were found among six hundred (600) individuals is shown in the following table:

TABLE V.

SHOWING FREQUENCY OF VENEREAL DISEASE AMONG 600 DELINQUENTS.

No. cases examined	600
Syphilis	182
Gonorrhea	133
Combined	32
Doubtful cases	27
Per cent. of cases examined having venereal disease	47%

Forty-seven per cent. of these individuals were suffering from one or both of these diseases. An additional 4.5% had doubtful blood and smears. Practically every other person in this group had syphilis or gonorrhea, or both conditions. Without a routine medical examination there is no safe and sane method of determining in court whether an individual is free from venereal infection.

These conditions are not, as is generally supposed, limited to purely chastity offenders; they are widely scattered among all classes of offenders. The following table will make this more clear:

TABLE VI.

SHOWING VENEREAL DISEASE AS RELATED TO TYPE OF OFFENSE COMMITTED.

	CHASTITY	DRUNK	LARCENY	POSSESSION OF DRUGS	VIOLATION OF LIQUOR LAW	BASTARDY COMPLAINT	STUBBORN CHILD	NEGLECT OF CHILD	ASSAULT AND BATTERY	ARSON	TOTAL
	303	*134*	*112*	*17*	*3*	*17*	*5*	*3*	*3*	*1*	*600*
Syphilis	105	43	21	6	2	1	1	0	3	0	182
Gonorrhea	85	18	23	3	0	1	0	2	1	0	133
Combined	16	9	6	0	0	0	0	0	1	0	32
Total number of venereal cases	174	52	38	9	2	2	1	2	3	0	283
Number doubtful cases	15	15	0	1	0	1	0	0	0	1	27
Per cent. of venereal cases	57.4%	38.8%	33.9%	53%							

Three hundred and three cases were so-called offenders against chastity; of these 57.4% were suffering from syphilis or gonorrhea, or both. An additional 4.9% had doubtful bloods and smears.

There were 134 cases of drunkenness; 38.8% of these individuals had venereal disease, while an additional 6.5% were doubtful cases.

There were 112 cases of larceny; of these individuals 33.9%, or one out of every three cases, had syphilis or gonorrhea, or both.

There were 17 individuals arrested for possession of drugs, and 53% had venereal disease.

There were three arrested for violating the liquor law, two of whom had syphilis.

Three were arrested for assault and battery; all three had venereal disease.

In short, these conditions are not limited to any one special type of offender in court, but are found common among delinquents in general.

It is the size and extent, as well as the seriousness of this problem to which we wish to call special attention. We are not dealing with a condition limited to the prostitute class; we are not dealing with a situation of merely secondary importance.

In syphilis and gonorrhea we have two diseases that are more far-reaching in the consequences with which they threaten the individual and the race than any other menace. These two conditions are found affecting all types of offenders seen in court. The gonorrheal prostitute is no more of a public danger than the syphilitic barber, or the pugnacious restaurant cook arrested for assault and battery, who was found in the infectious stage of syphilis.

The problem is large enough and is serious enough to demand a broad and comprehensive policy on the part of our courts,—a policy calling for a more routine investigation of the physical condition and the possibilities of each offender prior to his disposition.

SUMMARY.

The original purpose of this study was to determine what part, if any, routine physical examination might play in the disposition of a delinquent's case in court, and later in the institution of reconstructive measures while on probation.

For this purpose the records of our last 1000 cases were taken from the files, and the phys-

ical condition of each person noted; also the relationship which the physical condition bore, if any, to his economic efficiency.

Six hundred sixty-eight individuals, or 66.8% of our cases, were in good or fair health; 342 individuals, or 34.2%—one out of every three persons—were in poor or bad health, and in such physical condition as to warrant urgent medical treatment.

About 626, or 62.6%, were considered self-supporting; while 374, or 37.4%, were not self-supporting.

Some correlation between these figures is evident.

Thirty-five per cent. of those found to be in good or fair physical condition had been steadily employed; while only 2% of those found to be in poor or bad physical condition had been steadily employed.

Eighty-five per cent. of those found to be in good or fair physical condition had been, and still were self-supporting; while only 18% of those found to be in poor or bad physical condition had been and were still self-supporting. The chances for being self-supporting were more than four to one in favor of the individual in good physical condition.

Additional facts are included bearing upon the frequency of venereal disease among a group of 600 consecutive cases studied.

Forty-seven per cent. of these individuals were suffering from one or both of these diseases; an additional 4.5% had doubtful bloods and smears.

Of these 600 cases, 303 were so-called offenders against chastity; of these, 57.4% were suffering from syphilis or gonorrhea, or both; while an additional 4.9% were doubtful cases.

There were 134 cases of drunkenness; 38.8% of these individuals had venereal disease; an additional 6.5% were doubtful cases.

There were 112 cases of larceny. Of these individuals, 33.9%, or one out of every three cases, had syphilis or gonorrhea, or both.

There were 17 individuals arrested for possession of drugs; 53% of these had venereal disease.

Other types of offenders in court showed a correspondingly high frequency of these conditions.

In short, the conclusion reached from this study is that venereal disease is not limited to any one type of offender in court, but is found common among all classes of delinquents, and that a policy calling for a more routine investigation of the physical condition and the possibilities of each offender, prior to his disposition, would seem justifiable.

IDENTIFICATION OF SOLDIERS AFTER DEATH BY HEAD MEASUREMENTS.

By Arthur MacDonald,

Anthropologist, Washington, D. C.

I desire to give some reasons why, in measuring soldiers for fitness to enter military service, the maximum length and maximum width of the head should be taken, along with the measurements of height, girths of chest and weight, and with other data required in the physical examination of soldiers.

After the war, and probably during the war, Americans will desire to know, if not insist on knowing, all that is possible about their lost, missing and buried ones in Europe. Many will ask questions something like these: "Does the grave, marked by the provisional cross in the military cemetery, really contain the body of our son, brother, or father?" "Is the body of the prisoner who died in the enemy's hands, one of our family?" These and similar inquiries are sure to arise among American citizens, who constitute a nation which is extremely humanitarian, and a people who have shown themselves most generous in their war dealings. The necessity of identification in order to receive insurance money from the Government and from private companies, in difficult, doubtful and exceptional conditions, is apparent to every one. When it is a question of receiving five or ten thousand dollars insurance, sentiments against exhuming bodies, breaking open sealed caskets and the like will soon disappear. Not only this, but doubtless various fraudulent schemes will be attempted in the identification of the dead in order to obtain money.

If the French are asked to help in identification they will doubtless do all they can, and they are scientifically most expert in identification methods.

MAXIMUM LENGTH AND MAXIMUM WIDTH OF HEAD.

After soldiers are buried singly or in groups, and often in great haste, many of the usual means of identification may be lost, missing, or

mixed with those of other soldiers, and, owing to the many vicissitudes of war, such methods of identification may be of little or no avail.

If, however, the maximum length and maximum width of the head of a soldier have been recorded, these two measurements will be available for purposes of identification of the dead, and this, with collateral evidence of the condition of the teeth as recorded by the dentist at home, and with the additional evidence as to age of the skeleton, as indicated by degrees of ossification, will greatly facilitate and increase the probability of identification, where otherwise it might be very difficult, if not impossible to accomplish.

COLLATERAL EVIDENCE WITH THE HEAD MEASUREMENTS.

Teeth. Dentists usually keep a record of their daily work for each individual as to teeth filled, nature of filling, class, size, form, position and regularity of teeth treated; degree of decay, much or superficial, broken or with roots only existing, teeth missing. Such and other details familiar to dentists, combined with the two head measurements, would be very valuable either as positive or negative evidence of identity.

Synostosis. This is one of the first signs of age in the skeleton; the spot where it first appears varies with age. The most frequent place is at a point on the sagittal suture at the union of its posterior fifth with its anterior three-fifths, where the suture is clearly marked *obélion.* If the suture is entire, the individual is about 35 years of age or less. If the posterior sagittal point is commencing to close in, the individual is about 40 years of age. The ossification of the coronal suture close to bregma would indicate a person 50 or more years of age. If the temporal suture is closed, it indicates an age of 66 years or more. In the white race ossification generally proceeds from behind forwards; in the negro race it is the reverse. Wearing away of teeth and character of jaw can give idea of age.

CONDITION OF SKELETON IN GENERAL AS INDICATION OF AGE: OSSIFICATION OF LONG BONES.

A few of many points might be mentioned: (*a*) at the age of 16, the calcaneum is ossified throughout; (*b*) at 17, the greater trochanter is united to the head of the femur; (*c*) at 18, the superior extremity of the femur is united in its entirety to the shaft; (*d*) at 19, the epiphyses of the metatarsal bones are united to the body; (*e*) at 20, the epiphyses of the metacarpal bones are united to the body; (*f*) at 45, the xiphoid cartilage is ankylosed to the sternum; (*g*) at 50, the coccyx is ankylosed to the sacrum. These and other general statements, based upon many authorities, would help much, as collateral evidence, with the head measurements.

Data taken from the regular physical examination of the soldiers, including marks, scars, osseous and other peculiarities, might be of additional service in the identification after death, according to the condition of the body, or degree of decomposition, etc.

HEAD MEASUREMENTS OF THE LIVING COMPARED WITH THOSE OF THE DEAD.

In a study of 1139 skulls of persons of different nationalities, and who at death were in various conditions of nutrition, Czekanowski, a Polish writer, gives the various thickness of the soft parts of the skull at the place of maximum width and maximum length. Taking an average of these, I find 5.1 millimeters thickness of the soft parts of the maximum length and 6.9 millimeters for those of the maximum width. In comparing, therefore, the measurements of the skull, where the soft parts are decayed away, with the measurements of the head of the living person to whom the skull is supposed to belong, 5 millimeters should be added to the maximum length and 7 millimeters (avoiding fractions) to the maximum width of the skull.

In addition to this, the cephalic index of the living subject can be compared with that of his skull after death, by adding two units to the cephalic index of the skull, as is done by Topinard and other leading authorities.

Thus, if it be claimed that a decomposed body is that of a dead or missing soldier, whose head we know to have been dolichocephalic, whether the skull of the body in question is dolichocephalic or not can easily be determined, and if not dolichocephalic, it is quite evident that a mistake has been made, if not fraud committed. If, however, the skull be dolichocephalic, the degree of dolichocephaly can be found and its correspondence with the head of the previously living subject determined. This, with the collateral evidence from data as to teeth and ossification signs of age of the skull and rest of the skeleton, will greatly aid in the identification of heads of the living with their skulls

after death, and both positively and negatively. The negative evidence can prevent much fraud.

TIME REQUIRED AND EXPENSE OF TAKING THE HEAD MEASUREMENTS.

The time necessary to take the maximum length and maximum width of head is one minute. The head measurements could be taken best along with the measurements of height, chest girths, etc. If this is not done by those making the regular measurements required in the physical examination of soldiers, it could be done at other times, and with a force of ten persons, from three to four thousand could be measured in a day. The calipers for making the measurements would cost about ten dollars a pair. The salaries of the force of ten or more, if thought best to increase it, could be arranged as are the salaries of those now conducting the psychological measurements of the soldiers.

PHYSICAL STATUS OF THE AMERICAN PEOPLE.

The physical measurements of our young men which are being made in connection with their entrance into military service, is a beginning on a large scale of establishing the physical status of the American people. The measurements of maximum length and width of head, furnishing the cephalic index, are the two most important physical measurements of the body. In most all scientific studies of races and peoples, these two head measurements are taken. The physical and psychological measurements now being taken of the soldiers would not only have their scientific value greatly increased by the addition of these two head measurements, but the physical status of the American people would be made comparable with that of other peoples, races and nations.

The American people, who are paying and sacrificing for the war, are entitled to such knowledge, not only on account of the practical reasons for identification already set forth, but for its permanent and general value to the whole American nation now, and especially in the future. And unless these most important measurements are taken now, requiring but one minute of time, this opportunity of making all the measurements—mental, moral and physical—of much more present and permanent value, will practically be lost.

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PATHOLOGICAL CLASSIFICATIONS OF PULMONARY TUBERCULOSIS.

BY HERBERT F. GAMMONS, M.D., CARLSBAD, TEXAS.

THE resulting reaction of tissues to the injury by the entrance of the tubercle bacillus, depends upon the virulence of the bacilli, the resistance of the host, the number of bacilli and the length of time of contact of the bacilli with the tissues. Furthermore, the treatment of the infected person influences the pathological condition to a great extent.

It is very uncommon to find a single stage of disease in a tuberculous person if the disease has been present for some time; for instance, it is not uncommon to find, in the same lobe of the lung, caseation, necrosis, inflammation, fibrosis and calcification.

However, it is possible to divide the disease, according to its pathology, into inflammatory and ulcerative types, and these two types may be subdivided into fibro-inflammatory or fibro-ulcerative of the incipient moderately advanced or advanced stage, as the case may be, according to the other manifestations of the disease.

The diagnosis of these conditions may be made clinically by stethoscopic examination and also by observation of the sputum and by the use of the x-ray; the inflammatory cases having, as a rule, broncho-vesicular or, possibly, bronchial breathing in some instances, depending on the site of the lesion; some cases, however, do not have any modification of the vesicular breathing, but they do show fine râles of a crepitant nature.

The ulcerative case shows at some time mucopurulent or purulent sputum, with elastic-tissue fibers, and stethoscopic examination shows signs of cavitation, at times very slight, including marked variation in the vesicular respiration, increased sound transmission and râles of a mucous character, depending on the stage of the ulceration.

X-ray examination shows all degrees of shadows, depending on the stage of the ulceration, while in simple inflammatory cases, where the inflammation is more or less diffused, the x-ray examination has been negative. When there is a faint shadow surrounding a deeper shadow on x-ray examination, there is usually active inflammation in this faint shadowy area which is surrounding the old fibroid or ulcerative process that gave the darker shadow.

The classification of pulmonary tuberculosis, as used by the National Association for the Study and Prevention of Tuberculosis until recently, has dealt more with the length of time of infection, and the area of infection, than with the pathology of the disease.

Rathburn's modification[1] of previous classifications increases the flexibility of the previous classifications; however, it seems probable that the classification of pulmonary tuberculosis may be made a little more useful from a therapeutic and prognostic standpoint, if we consider the disease from the standpoint of its pathology, at the same time considering the extent of involvement, length of time of disease, resistance of the patient, and virulence of the infecting organisms, as shown by the constitutional symptoms.

The treatment of these different pathological conditions in pulmonary tuberculosis is not all the same for each type. For instance, a simple inflammatory incipient case, with no constitutional symptoms, does not need the rest that other types need. The moderately advanced ulcerative case often needs more rest than the advanced fibro-inflammatory case which has no constitutional symptoms.

The prognosis of all these types and stages depends on the treatment, to a certain extent; however, the far-advanced cases of the fibro-inflammatory type, and without constitutional symptoms, has not only developed his immunity but he has also developed a great mechanical resistance in the affected areas, as has been shown by Krause[2], and will often do better and live longer, with proper treatment, than the active inflammatory type of the incipient stage.

By using the present classification of Rathburn[1] and adding the pathological type, as is found by observing the sputum and by examination with the stethoscope and x-ray, it is probable that we may give the patient more definite advice as regards the prognosis and treatment of his disease.*

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[1] Rathburn: American Review of Tuberculosis, Vol. i, No. 1, p. 1.
[2] Krause: American Review of Tuberculosis, Vol. i, No. 2, p. 65.

IDIOPATHIC EPILEPSY A SYMPATHICOPATHY.

BY EDWARD A. TRACY, M.D., BOSTON.

(*Continued from page 780.*)

Nov. 8, 1916. Obs. 278. 8 p.m. Reaction time: left forearm, 15 seconds; right forearm, 14 seconds; left face, 10 seconds; right face, 9 seconds. Patient had an attack of convulsions at 4 a.m. the next morning.

Nov. 9, 1916. Obs. 282. 8 p.m. Reaction time: left forearm, 21 seconds; right forearm, 15 seconds; left face, 8 seconds; right face, 8 seconds. Patient had two attacks of convulsions in the early morning following.

Nov. 10, 1916. Obs. 286. 8 p.m. Reaction time: left forearm, 15 seconds; right forearm, 18 seconds; left face, 9 seconds; right face, 8 seconds. Patient had an attack at 8 o'clock the following morning.

Nov. 18, 1916. Obs. 318. 9 a.m. Reaction time: left forearm, 14 seconds; right forearm, 13 seconds; left face, 11 seconds; right face, 14 seconds. Patient had an attack at 11 a.m., two hours after the observation was made.

Obs. 320. 7 p.m. Reaction time: left forearm, 14 seconds; right forearm, 13 seconds; left face, 15 seconds; right face, 11 seconds. Patient had an attack at 3 o'clock the next morning.

Nov. 19, 1916. Obs. 323. 7 p.m. Reaction time: left forearm, 12 seconds; right forearm, 11 seconds; left face, 11 seconds; right face, 11 seconds. Patient had convulsions at 3 o'clock the next morning.

Nov. 20, 1916. Obs. 328. 7.45 p.m. Reaction time: left forearm, 16 seconds; right forearm, 15 seconds; left face, 11 seconds; right face, 9 seconds. Patient had convulsions at 3 o'clock the next morning.

Nov. 21, 1916. Obs. 333. 7.45 p.m. Reaction time: left forearm, 20 seconds; right forearm, 15 seconds; left face, 10 seconds; right face, 11 seconds. Patient had convulsions at 5 o'clock the next morning.

Nov. 28, 1916. Obs. 369. 7.30 p.m. Reaction time: left forearm, 11 seconds; right forearm, 14 seconds; left face, 10 seconds; right face, 9 seconds. Patient had convulsions the next morning at 9 o'clock.

Dec. 17, 1916. Obs. 443. 7 p.m. Reaction time: left forearm, 13 seconds; right forearm,

* The schema, as worked out by Rathburn, offers the following combinations: Incipient, Moderately Advanced and Advanced, A, B, and C; the suffixes denoting, respectively: Slight or no symptoms; Moderate symptoms, or Severe symptoms.

14 seconds; left face, 11 seconds; right face, 10 seconds. Patient had convulsions the next morning at 8.30 o'clock.

Dec. 23, 1916. Obs. 462. 8 p.m. Reaction time: left forearm, 13 seconds; right forearm, 11 seconds; left face, 10 seconds; right face, 11 seconds. Patient had convulsions at 4 and 8.40 o'clock the next morning.

Jan. 1, 1917. Obs. 485. 7 p.m. Reaction time: left forearm, 15 seconds; right forearm, 11 seconds; left face, 11 seconds; right face, 9 seconds. Patient had convulsions at 7.45 o'clock the next morning.

Jan 9, 1917. Obs. 512. 7.30 p.m. Reaction time: left forearm, 16 seconds; right forearm, 10 seconds; left face, 13 seconds; right face, 10 seconds. Patient had convulsions at 5 o'clock the next morning.

Jan. 15, 1917. Obs. 530. 8.30 p.m. Reaction time, left forearm, 12 seconds; right forearm, 15 seconds; left face, 11 seconds; right face, 11 seconds. Convulsions at 5 o'clock the next morning.

Jan. 25, 1917. Obs. 557. 8 p.m. Reaction time: left forearm, 17 seconds; right forearm, 17 seconds; left face, 11 seconds; right face, 10 seconds. Convulsions at 6 o'clock the next morning.

Jan. 26, 1917. Obs. 560. 8 p.m. Reaction time: left forearm, 20 seconds; right forearm, 19 seconds; left face, 10 seconds; right face, 11 seconds. Convulsions at 3 o'clock the next morning.

Feb. 6, 1917. Obs. 585. 7.30 p.m. Reaction time: left forearm, 10 seconds; right forearm, 15 seconds; left face, 9 seconds; right face, 11 seconds. Convulsions followed in the early morning at 1.30 and 2.30 o'clock.

Feb. 13, 1917. Obs. 596. 7.30 p.m. Reaction time: left forearm, 15 seconds; right forearm, 15 seconds; left face, 11 seconds; right face, 11 seconds. Convulsions during the night and again at 7.30 o'clock the next morning.

Feb. 21, 1917. Obs. 615. 7 p.m. Reaction time: left forearm, 16 seconds; right forearm, 10 seconds; left face, 11 seconds; right face, 10 seconds. Convulsions the next morning at 9 o'clock.

March 3, 1917. Obs. 639. 8 p.m. Reaction time: left forearm, 14 seconds; right forearm, 12 seconds; left face, 10 seconds; right face, 10 seconds. Convulsions followed at 4 o'clock the next morning.

March 28, 1917. Obs. 682. 8 p.m. Reaction time: left forearm, 13 seconds; right forearm, 10 seconds; left face, 10 seconds; right face, 9 seconds. Convulsions at 3 o'clock and 7.30 o'clock the next morning.

March 31, 1917. Obs. 691. 7.30 p.m. Reaction time: left forearm, 18 seconds; right forearm, 20 seconds; left face, 11 seconds; right face, 10 seconds. During the night had two attacks of convulsions.

April 6, 1917. Obs. 709. 8 p.m. Reaction time: left forearm, 11 seconds; right forearm, 11 seconds; left face, 10 seconds; right face, 10 seconds. Convulsions during the night and the next morning.

May 1, 1917. Obs. 790. 7 p.m. Reaction time: left forearm, 19 seconds; right forearm, 16 seconds; left face, 15 seconds; right face, 11 seconds. Convulsions at 2.30 and at 6 o'clock the next morning.

May 2, 1917. Obs. 794. 8 p.m. Reaction time: left forearm, 11 seconds; right forearm, 13 seconds; left face, 14 seconds; right face, 10 seconds. Convulsions at 5 o'clock the next morning.

May 3, 1917. Obs. 798. 7.30 p.m. Reaction time: left forearm, 19 seconds; right forearm, 20 seconds; left face, 13 seconds; right face, 9 seconds. Convulsions that night at 1.30 o'clock.

May 16, 1917. Obs. 847. 8 p.m. Reaction time: left forearm, 17 seconds; right forearm, 23 seconds; left face, 10 seconds; right face, 9 seconds. Convulsions next morning at 4 o'clock.

May 24, 1917. Obs. 876. 8 p.m. Reaction time: left forearm, 17 seconds; right forearm, 14 seconds; left face, 10 seconds; right face, 10 seconds. Convulsions next morning at 8 o'clock.

May 25, 1917. Obs. 880. 8 p.m. Reaction time: left forearm, 14 seconds; right forearm, 16 seconds; left face, 9 seconds; right face, 9 seconds. Convulsions at 7 o'clock the next morning.

June 8, 1917. Obs. 913. 7.30 p.m. Reaction time: left forearm, 15 seconds; right forearm, 15 seconds; left face, 11 seconds; right face, 10 seconds. Convulsions at 5 and 9 o'clock the next morning.

June 15, 1917. Obs. 931. 8 p.m. Reaction time: left forearm, 13 seconds; right forearm, 8 seconds; left face, 11 seconds; right face, 10 seconds. Convulsions next morning at 5.30 o'clock.

June 23, 1917. Obs. 948. 8 p.m. Reaction time: left forearm, 13 seconds; right forearm, 8 seconds; left face, 9 seconds; right face, 11 seconds. During the night patient had two attacks of convulsions.

June 28, 1917. Obs. 964. 8.30 p.m. Reaction time: left forearm, 11 seconds; right forearm, 11 seconds; left face, 11 seconds; right face, 9 seconds. Convulsions at 3.30 and 5.45 o'clock in the morning.

July 9, 1917. Obs. 995. 8 p.m. Reaction time: left forearm, 11 seconds; right forearm, 12 seconds; left face, 9 seconds; right face, 10 seconds. Convulsions during the night at 1 and 3.30 o'clock.

Oct. 27, 1917. Obs. 1359. 6.40 p.m. Reaction time: left forearm, 10½ seconds; right forearm, 12 seconds; left face, 11 seconds; right face, 12½ seconds. Two attacks of convulsions during the night.

Nov. 9, 1917. Obs. 1398. 5.30 p.m. Reaction time: left forearm, 7½ seconds; right forearm, 8½ seconds; left face, 12 seconds;

right face, 12½ seconds. Convulsions at 5.30 o'clock the next morning.

The diseased condition of the sympathetic neurones, evidenced by the vasoconstriction spots heretofore described, is further shown by the abnormal reaction times of the vasoconstriction reflex, many examples of which already have been given in this essay. A demonstration of another abnormality of the reaction times follows. It has been mentioned that, in the normal individual, the vasoconstriction reflex to stroking the skin of the forearm is quicker to appear than that which follows stroking the face. In chronic idiopathic epilepsy the reverse is frequently noted, *i.e.*, the reaction time of the face is less than that of the forearm. A glance over the observations in Case 1, given above, shows this abnormality. The finding is confirmed by the following records of single observations made in fifty-five other cases of this disease.

CASE 2. Obs. 1508. Reaction time: left forearm, 12 seconds; right forearm, 15 seconds; left face, 11 seconds; right face, 13 seconds.

CASE 4. Obs. 1504. Reaction time: left forearm, 12 seconds; right forearm, 18 seconds; left face, 10 seconds; right face, 8 seconds.

CASE 6. Obs. 1522. Reaction time: left forearm, 12 seconds; right forearm, 12 seconds; left face, 10 seconds; right face, 11 seconds.

CASE 9. Obs. 1532. Reaction time: left forearm, 15 seconds; right forearm, 12 seconds; left face, 10 seconds; right face, 11 seconds.

CASE 11. Obs. 1540. Reaction time: left forearm, 16 seconds; right forearm, 8 seconds; left face, 10 seconds; right face, 13 seconds.

CASE 12. Obs. 1544. Reaction time: left forearm, 13 seconds; right forearm, 16 seconds; left face, 10 seconds; right face, 14 seconds.

CASE 14. Obs. 1551. Reaction time: left forearm, 19 seconds; right forearm, 15 seconds; left face, 10 seconds, patchy; right face, 7 seconds, patchy.

CASE 15. Obs. 1555. Reaction time: left forearm, 12½ seconds; right forearm, 10 seconds; left face, 10 seconds; right face, 6 seconds.

CASE 16. Obs. 1557. Reaction time: left forearm, 8½ seconds; right forearm, 11 seconds; left face, 10 seconds; right face, 8 seconds.

CASE 17. Obs. 1562. Reaction time: left forearm, 10 seconds; right forearm, 9 seconds; left face, 9 seconds; right face, 12 seconds.

CASE 18. Obs. 1566. Reaction time: left forearm, 10 seconds; right forearm, 7 seconds; left face, 10 seconds, patchy; right face, 17 seconds.

CASE 19. Obs. 1570. Reaction time: left forearm, 16 seconds; right forearm, 7 seconds; left face, 11 seconds, patchy; right face, 6 seconds.

CASE 20. Obs. 1574. Reaction time: left forearm, 9 seconds; right forearm, 13 seconds; left face, 10 seconds; right face, 11 seconds, patchy.

CASE 21. Obs. 1577. Reaction time: left forearm, 9 seconds; right forearm, 13 seconds; left face, 10 seconds; right face, 12 seconds.

CASE 22. Obs. 1579. Reaction time: left forearm, 21 seconds; right forearm, 15 seconds; left face, 8 seconds, patchy.

CASE 23. Obs. 1582. Reaction time: left forearm, 8½ seconds; right forearm, 13 seconds; left face, 7 seconds, patchy; right face, 7 seconds.

CASE 24. Obs. 1585. Reaction time: left forearm, 11 seconds; right forearm, 9 seconds; left face, 10 seconds, patchy; right face, 11 seconds.

CASE 25. Obs. 1589. Reaction time: left forearm, 12 seconds; right forearm, 15 seconds; left face, 11 seconds; right face, 15 seconds, patchy.

CASE 26. Obs. 1593. Reaction time: left forearm, 12 seconds; right forearm, 9 seconds; left face, 7 seconds; patchy; right face, 10 seconds.

CASE 29. Obs. 1603. Reaction time: left forearm, 12 seconds; right forearm, 9 seconds; left face, 8 seconds; right face, 10 seconds.

CASE 30. Obs. 1607. Reaction time: left forearm, 15 seconds; right forearm, 15 seconds; left face, 8 seconds, patchy; right face, 12 seconds.

CASE 31. Obs. 1610. Reaction time: left forearm, 16 seconds; right forearm, 17 seconds; left face, 6 seconds; right face, 13 seconds, patchy.

CASE 32. Obs. 1612. Reaction time: left forearm, 11 seconds; right forearm, 8 seconds; left face, 10 seconds; right face, 9 seconds.

CASE 33. Obs. 1615. Reaction time: left forearm, 15 seconds; right forearm, 25 seconds;

left face, 14 seconds, patchy; right face, 9½ seconds, patchy.

Case 34. Obs. 1618. Reaction time: left forearm, 10 seconds; right forearm, 12 seconds; left face, 10 seconds; right face, 11 seconds, patchy.

Case 36. Obs. 1623. Reaction time: left forearm, 19 seconds; right forearm, 13½ seconds; left face, 8½ seconds, patchy; right face 10 seconds, patchy.

Case 37. Obs. 1626. Reaction time: left forearm, 15 seconds; right forearm, 15 seconds; left face, 15 seconds; right face, 16 seconds, patchy.

Case 39. Obs. 1631. Reaction time: left forearm, 15 seconds; right forearm, 7 seconds; left face, 14 seconds; right face, 9 seconds.

Case 40. Obs. 1633. Reaction time: left forearm, 13 seconds; right forearm, 10 seconds; left face, 20 seconds; right face, 15 seconds, patchy.

Case 41. Obs. 1637. Reaction time: left forearm, 12 seconds; right forearm, 12 seconds; left face, 19 seconds, patchy; right face, 15 seconds, patchy.

Case 43. Obs. 1642. Reaction time: left forearm, 15 seconds; right forearm, 20 seconds; left face, 20 seconds, patchy; right face, 15 seconds, patchy.

Case 45. Obs. 1646. Reaction time: left forearm, 12 seconds; right forearm, 9 seconds; left face, 13 seconds, patchy; right face, 15 seconds, patchy.

Case 46. Obs. 1649. Reaction time: left forearm, 23 seconds; right forearm, 11 seconds; left face, 13 seconds; right face, 17 seconds, patchy.

Case 47. Obs. 1651. Reaction time. left forearm, 13 seconds; right forearm, 15 seconds; left face, 13 seconds; right face, 11 seconds.

Case 49. Obs. 1656. Reaction time: left forearm, 15 seconds; right forearm, 15 seconds; left face, 10 seconds; right face, 11 seconds.

Case 50. Obs. 1659. Reaction time: left forearm, 15 seconds; right forearm, 10 seconds; left face, 10 seconds; right face, 14 seconds.

Case 51. Obs. 1660. Reaction time: left forearm, 13 seconds; right forearm, 7 seconds; left face, 10 seconds; right face, 12 seconds, patchy.

Case 52. Obs. 1667. Reaction time: left forearm, 16 seconds; right forearm, 12 seconds; left face, 10 seconds; right face, 9 seconds.

Case 53. Obs. 1669. Reaction time: left forearm, 18 seconds; right forearm, 9 seconds; left face, 8 seconds; right face, 10 seconds.

Case 54. Obs. 1672. Reaction time: left forearm, 10 seconds; right forearm, 16 seconds; left face, 12 seconds; right face, 11 seconds.

Case 56. Obs. 1678. Reaction time: left forearm, 20 seconds, patchy; right forearm, 15 seconds; left face, 13 seconds, patchy; right face, 12 seconds.

Another abnormality in the vasconstriction reaction to stroking, sometimes observed in chronic idiopathic epilepsy, is this: the white streak due to reflex vasoconstriction has not the evenness of the normal reaction,—parts of the streak are lacking; it is patchy in appearance. This defective vasoconstriction reaction, termed "patchy," was found present in twenty-three out of forty-two cases of this disease, as the reaction tests recorded above show.

Other abnormalities in the vasoconstriction reflex have been observed; not infrequently is seen a widespread area of pronounced vasoconstriction, in response to the testing stroke, in place of the ordinary white streak.

Very frequently has been observed a difference in the reaction times taken simultaneously in different parts of the same forearm. Normally, the reaction times for the forearm, stroked near the elbow, in the middle, and near the wrist, are practically the same, and the three resulting streaks are quite similar. In epilepsy the reaction times in these different locations, tested simultaneously on the same forearm, as a rule, vary, and frequently one of the stroked areas responds more quickly, or with a mose pronounced white streak than the others. (In making this and all other vasomotor reaction tests, the writer uses a little instrument devised for the purpose, which ensures the application of the same stimulus always,—the stimulus caused by a pressure of two and a half ounces.)

Having shown the diseased condition of sympathetic neurones, manifested by the varied abnormalities described in the vasoconstriction reflex and by the vasoconstriction spots, observations upon some phenomena connected with the latter appear worthy of consideration. During this research, the discovery was made that pigment spots are invariably associated with chronic vasoconstriction spots, that is, where such vasoconstriction spots are found, not far away pigment in the skin is also found. In the photogravures accompanying this essay these pigment spots appear with ink-like blackness. On the skin, pigment spots appear in various

tints of brown, and are not at all as impressive as they appear in these pictures. Pigment spots have served a very useful purpose in the study of the vasoconstriction spots, for, being permanent, they served as landmarks for the location of the more elusive vasoconstriction spots. A sketch was made of the surface upon which vasoconstriction spots had been found, and the location of them relative to the pigment spots was indicated upon the sketch. Using this sketch as a map, further inspection of the surface a week or two after revealed the chronicity, change of location, etc., of the vasoconstriction spots that were under observation.

(To be continued.)

Society Report.

THIRTY-SECOND ANNUAL MEETING OF THE AMERICAN ORTHOPEDIC ASSOCIATION.

ARMY MEDICAL SCHOOL, WASHINGTON, D.C., APRIL 22-23, 1918.

(Continued from page 783.)

DISCUSSION.

MAJOR W. C. PETERS, M.R.C., said he had not had experience with men returning from the war. He had supervision of camps in the Middle West, and he wished to speak of fundamental principles involved. Major Hornsby had said that he did not consider this a time for the rehabilitation of the defective individual. Still, it was found that many cardiac cases could be treated by suitable exercise and many tuberculous cases could be made more fit. Even granting that operation was undesirable, many men could be made fit for the line, many more for limited service, and, thirdly, there was the important point of equal justice. It was not fair that one boy should give up his position to go to France and get shot, while the other boy could stay with his family and friends and keep his position just because he had flat feet. In the Middle West intensive training was being used more than operative methods, and the end justified the efforts.

MAJOR EMIL GEIST, M.R.C., said he was not a camp orthopedist; he was connected with the General Hospital, and these problems were rather different. He had watched the work of Major Corbusier, and it seemed to him that if one eliminated men from the Army and S.C.D'd them because they had flat feet they were going to waste a lot of good men, who at least were fit for selected service. The last order of the Surgeon-General was that men with flat feet should not be S.C.D'd. This was the most sensible order yet issued.

CAPTAIN MARSHALL, M.R.C., said that there were several very commendable features in this work of Captain Rich. In experience gathered as camp orthopedist at Camp Taylor he felt that many difficulties could be overcome by cooperation with hospital management. It was a big mistake to put a premium on disability. Many a malingerer would go from one ward to another and be seen by different consultants. A rank malingerer would thus pass his time surrounded by all the comforts of the Red Cross, and it was impossible to play the detective continually on these men. This occurred continually, and it was only by segregating these men that the plan could be worked out. Simulation of ankylosis of the knee was a favorite plan, and these men would put in several months in the hospital. This plan, advocated by Captain Rich, was by no means a pleasure cure, and was highly commendable in these malingering cases.

CAPTAIN TRUEHART, M.R.C., of Camp Cody, said he had seen a camp suffering from psychic flat foot. The cure was made extremely strenuous and it entirely eliminated the psychic side. The real flat feet were left. The strenuous training was then let up and it was found that many of these men would never be really fit for military duty. Many of them made excellent bakers, but they could never march. Old empyema cases were put under a course of exercises to prevent scolioses, which often developed after empyema. In this way one could clean out four or five hundred men from the hospital, and leave only 50 or 60.

CAPTAIN WHITBECK, M.R.C., said that he believed that his provisional régime was of the utmost importance. In the beginning of the war it was customary to reject all cases of feet which did not come up to a high standard. When the men enlisted they were rejected for foot conditions which did not come up to the

Regular Army standards. In the National Army there were many men who had been rejected for the Regular Army because they had flat feet. It would be found impossible to preserve the standard of perfect feet. Men were also found to fall out through disability or malingering. A number of these cases could be put in shape for military service. The second draft had picked up a lot of men who were passed by on the first draft, and eight months had thus been lost, therefore it was of the utmost importance that good judgment should be used. Forty-eight hours were wasted in going through the hospital routine, whereas if the men were examined in camp and referred to the casual detachment, the problem would be solved. The class could be placed under supervision of an orthopedic man, and many cases could be made fit by graduated exercise. This would relieve the congestion in the wards and make room for the really sick cases. Cases operated on for hernia and cases with sub-acute synovitis could get a chance to get into shape before being put in line duty.

DR. S. TWINCH, of Newark, said he would like to ask the members for some instruction in the examination of foot cases. The ideas were not uniform on the subject. One man rejects a foot that can't go into an ordinary shoe. Dr. Twinch said that many cases besides this were not fit, and he rejected them, irrespective of the orders.

CAPTAIN TEST, M.R.C., of Camp Dodge, said that he could say a word in reference to the use of plaster. It would make no difference to the psychic foot; where the foot was really sensitive considerable relief could be gained by immobilization in plaster. Flat feet were of two kinds, the static flat foot, and the arthritic flat foot with history of rheumatism. There was little to do for the latter kind; the x-ray shows lipping of the edges of the tarsal bones. The static flat foot with stretched ligaments could be put up in a plaster for four weeks to allow of subsidence of inflammation, and then it could be strengthened by exercise. Probably there were many perfectly good flat feet. There was strain observed with high arch also. There was ethnic significance in this. The Scandinavian showed a thin foot with a high arch. This type of foot did not stand marching well. Putting pads under the metatarsal heads helped somewhat, and increasing the size of the shoes helped more. It had been found of help in teaching regimental surgeons about feet, to have two lantern slides made, showing a normal and an abnormal foot. It was important to be able to judge whether a man was malingering or not.

CAPTAIN E. R. RICH, in conclusion, said that he thought that any case bad enough to be put in plaster of Paris ought to be S.C.D'd. It was found difficult to get the Casual Detachment started in camps. The orthopedic man had to get in touch with the line officer, and sometimes it was necessary to telegraph to the Surgeon-General's office. The organization was a very essential one.

ORGANIZATION OF DIVISION OF ORTHOPEDIC SURGERY IN U. S. ARMY WITH EXPEDITIONARY FORCES.

MAJOR JOEL E. GOLDTHWAIT sent this paper. Briefly stated, the points covered were as follows: The chief work of the orthopedic surgeon is the salvage of men for duty; this consists of two parts—(*a*) proper physical training, (*b*) restoration of wounded. Under the first heading falls the general postural care, inspection of shoes and clothing, and special supervision of training. The second part involves the treatment or assistance in treatment of cases in which the bones and joints are injured, or in which the muscles, tendons or ligaments which are involved in the control of these parts are damaged, including proper supervision of splints, and transportation.

ORTHOPEDIC SURGERY IN THE ADVANCE ZONE.

MAJOR KENDALL EMERSON, M.R.C., A.E.F., gave his paper. In time of stress, as at the present, perfect health was the most desirable asset; correct posture was essential in order to have the least possible interference with the functions of the abdominal viscera. It was essential that principles of hygiene should be understood by men and officers. In organizing an orthopedic unit the work was under a line officer and four orthopedic surgeons. It included two parts. First: Under proper physical training men were trained to become fit for full combat duty; 80% of the men were enabled to reach this standard. The second part of the work dealt with the restoration of the wounded and included the splints used for their transportation, and their subse-

quent hospital treatment and re-education. It was felt that the orthopedic surgeon had a special duty to perform in the advanced areas of warfare. Attention had to be given to the soldier when he fell, and the stages from the trenches to the hospital train were under special care. The ambulance service had no facilities for operation, owing to air raids, and the first opportunity for operating was the evacuation hospital. A stationary hospital with a permanent staff, five miles back from the line of battle, and equipped with 500-1000 beds, could cover a great deal of active work. Different small staff units could be detached from this and be detailed to points where the staff was overworked. Such small teams were mobile and could be added to or taken away from a unit. They should be equipped to do all kinds of surgery. A permanent orthopedic unit with detachable teams could be created under the supervision of a first-class orthopedic surgeon. A general surgeon could act as assistant and anesthetist. The orthopedic surgeon should be broad enough in spirit and ability to assist the general surgeon, when necessary, in chest and abdominal cases. In fractures and joint injuries the trained judgment of the orthopedic man was necessary in the first instance. The details of the kind of splint required and the problems of immobilization should be carried out under his supervision, though orderlies could be trained to do wonderful work, under proper direction. In forming her medical and surgical units the greatest care as to organization and detail was necessary. America must leave no stone unturned to offer the best surgical service to help the boys who were offering the supreme service of sacrifice.

DEMONSTRATION OF IMPORTANT SPLINTS APPLIED.

CAPTAIN W. J. TAYLOR, M.R.C., A.E.F. It was stated that the splints used by the British had been made haphazard without efforts at standardization. An attempt had been made to adapt them to men of any size, by various contrivances. Standardization would simplify procedures and aid transportation facilities. The splint should be quickly applied, before the man has a chance to move and to make a compound fracture. Appliances for the upper limb were shown—the elbow metal splint, the triangular bandage, the Thomas traction arm band. It was shown that the more simple the apparatus was, the better it was worked at the battle line. The forefoot splint and the Jones long leg splint were shown. In injuries of the tibia it was found of more comfort to the patient to have a side splint and a posterior splint together in use. A pad was placed under the Achilles tendon to support the foot. An improvised sling for the leg could be made by splitting the trouser on the upper side, turning back the flaps and pinning them round the bars of the stretcher, thus allowing the clothing to form a sling on which the injured limb rested.

THE CARREL-DAKIN TREATMENT AT OXFORD.

CAPTAIN JOHN DUNLOP, M.R.C., A.E.F., gave this paper. Old chronic suppurating war wounds, he stated, had been subjected to many treatments. Cases were selected for the Carrel-Dakin treatment which had failed to recover under other methods,—B.I.P.P., eusol, hypertonic salt and flavine. The cases were chiefly open fractures of the upper and lower limbs, a few flesh wounds, septic bone grafts and exacerbations of old septic scars. The cases were operated on afresh and Carrel tubes inserted. Great care was exercised to insure aseptic dressings. Behavior of wounds resembled that of fresh cases under similar treatment. The usual difficulties were encountered with the apparatus. No secondary sutures were attempted. Conclusions indicate that the method was successful,—wounds healed more quickly than is usually expected, dressings were painless and the general improvement in the patients' conditions was very marked. It was apparent that the infection was controlled from the beginning. At operation a thorough exploration of the wound area was made, and the first dressings were done under complete anesthesia.

HISTORY OF WOUND TREATMENT IN THREE AND A HALF YEARS OF WAR.

MAJOR G. W. HARLEY gave this paper. He said the changes that were now taking place were revolutionary. More progress had been made in the past year than any since the war began. The difference between civil and military practice was not so well appreciated at first. Beneath an innocent-looking wound much traumatized tissue was often found. Total excision of all foreign bodies was essential. Effectual bacteriological control could be best effected by the Dakin hypochlorite solution combined with early operation. War op-

erations appeared more like butchery than surgery. One surgeon had said it looked like the pathologists' work at a post mortem. To prevent osteomyelitis, the operation should be performed within 18 hours. It was said that in France alone there occurred 170,000 cases of osteomyelitis. This was the type of case which the orthopedic surgeon would have to treat.

THE TREATMENT OF CHRONIC OSTEOMYELITIS DUE TO GUNSHOT INJURIES.

This paper was given by CAPTAIN C. F. EIKENBARY, M.R.C., A.E.F. It was stated that sequestrae might be left and thus persisent sinuses be formed which would remain for years, and finally result in amputation. From a five months' experience at Bellahouston Hospital in Glasgow the author concluded that palliative operations in chronic osteomyelitis are of no avail. Treatment followed the lines of making a radical incision, including as much of the sinus as possible. Sequestrae were removed, together with much healthy bone, an inch above and below the diseased area. The chisel was slanted to leave a smooth-edged, shallow trough of healthy bone. This was packed with dry gauze, the skin held by one suture at either end. The aim of the operation in such cases is to: (1) get rid of all necrotic bone; (2) avoid leaving any cavity at all; (3) avoid leaving spicules, rough areas, etc. Post-operative improvement was successful, healing taking place within four weeks.

NOTES ON EXCISIONS OF SEPTIC JOINTS.

MAJOR ROBERT B. OSGOOD sent this paper. He stated that the use of the ankylosed joint depended mainly upon the angle of ankylosis. Two requisites in treatment were that the position of immobilization should be slightly exaggerated, and, second, that adequate drainage be provided. There should be some apparatus to prevent the patient lying on his wound. The removal of loose fragments was not advised as these might form a solid union. Anatomical considerations played a part in regard to the ankylosed joint. In some cases fair stability with motion could be obtained. In others flail joint occurred. Ankylosis was most favorable in shoulder, hip, knee and ankle. The one exception was the elbow, which was better flail than stiff, because it was not a weight-bearing joint. Fixation of joints was considered, and an angle of 70 degrees was stated as best for the shoulder; 110 for the elbow (if both elbows, one 110, the other 70 degrees). Jones favored putting the hip and the knee in extension, but other surgeons used slight flexion. The wrist was put in dorsal flexion; the ankle at right angles. The results of excision of joints were interesting. The excision of the knee, unless in the presence of sepsis, was encouraging; the excision of the ankle in children, successful; not so in adults. The writer considered merely the excision of joints for control of sepsis, not primary excision for other varieties of joint disease.

PRIMARY AND DELAYED PRIMARY SUTURE IN THE TREATMENT OF WAR FRACTURES.

This paper was presented by MAJOR WILLIAM S. BAER, M.R.C., A.E.F. American surgeons, he said, had arrived on the scene when the principles of general war surgery had been established. Since August, 1914, wonderful strides had been taken from the old painful, prolonged treatments to the present methods with the almost complete restoration of function. These hard and costly lessons had been learned by the Allies. The principles of war surgery so far established are: (1) all wounds are to be considered infected; (2) it is necessary to remove all projectiles, clothing and devitalized tissue, if possible, before the 12th hour after the injury; (3) when removed within this period such wounds can be considered aseptic in character and a primary suture made, thus converting compound fractures into simple fractures. In skillful hands primary suture could be performed (before the 12th hour) in 80 to 95% of the cases. When primary suture was not found possible, the so-called secondary suture, in which the wounds are closed on the second, third or fourth day, would be found successful in 80 to 87% of the cases.

THE PATHOLOGY OF THE PERIPHERAL NERVES IN GUNSHOT WOUNDS.

This was presented by CAPTAIN SYDNEY M. CONE, M.R.C., A.E.F. The report included observations upon two hundred cases of nerve injuries, both severed nerves and those involved in scar tissue. It dealt with the pathology of degenerating nerves, and stated that proliferation takes place at both proximal and distal ends, and that bulbous terminations of severed nerves are composed chiefly of actively growing

nerve tendrils and comparatively little inactive tissue.

ORTHOPEDIC TREATMENT OF NERVE LESIONS.

This paper was presented by MAJOR WILLIAM G. ERVING, M.R.C. The problems of this subject, he said, were numerous and complicated. Each step was important, and the treatment might be divided into 3 groups: (*a*) supporting and protecting, (*b*) operative, (*c*) non-operative. In connection with the first, it was found necessary to have splints to overcome the defects produced by sensory nerve lesions, such as wrist-drop. To prevent stretching of muscles a light papiermaché model was used, and various other appliances were used to prevent contractions or malpositions of hand or foot. The manipulation of adjacent joints was necessary to prevent deformity. The operative treatment consisted of: (1) freeing muscles and tendons from scar tissue, (2) freeing nerves from scar tissue, (3) suture of divided nerves, (4) tendon transplantation, (5) arthrodesis. Non-operative treatment consisted of faradic stimulation, diathermy, hydrotherapy, massage, passive and active exercises, workshop training and mechanotherapy. The mind had to be trained to help to train the muscles. The proper sequence and coördination of these methods required the supervision of the patient by one surgeon throughout, who would take into consideration all the problems involved, and give to each step of the treatment its proper place in the general scheme.

DISCUSSION.

DR. TRUSLOW, Brooklyn, said he was interested in noticing in the introductory pages of Sir Robert Jones's "Surgery" that he had gained advantage in war orthopedic surgery by his previous experience in the treatment of paralytic tremors in children and other persons. In hearing the papers read he could see that they might find their experience in paralyses useful in the lessons they would have to learn. One could see that the methods of therapy would be applicable to war surgery nerve lesions.

At this time exhibition was made of a complete dissection of a human nervous system, from a man 5 feet, 7 inches, and weighing 240 pounds. Eighteen months' preservation in formalin and other preservatives had reduced it to about 2 feet in height. The dissection was made by Walter H. Wright, a student, who had spent two summers in the work. Every tissue had been sacrificed in the figure except the nervous tissue, and it was interesting to notice that the 7th nerve showed an anastomosis with the infraorbicular.

OPERATIVE TECHNIC IN CONTRACTURE OF THE HAND.

This was a lantern demonstration given by MAJOR ALLEN B. KANAVEL, M.R.C. (by invitation). One picture showed destruction of tendon with involvement of nerve and adhesions. In the treatment of this case there were difficulties. The lumbricoid muscles were bound down in scar tissue and had to be dissected without injury to the nerve supply. Owing to impairment of blood supply to the synovial sheath in injury, the sheath was apt to fill with fluid and pus and the nerve became damaged and lost its vitality. In injuries of the median nerve the annular ligament was an important structure. Injury to the ligament caused necrosis of the nerve. Increase of anemia in the parts hastened nerve destruction. In studying the relation of the nerves to the wrist joint, where the os magnum, the ensiform and the trapezium are destroyed, the removal of the distal row of bones is not sufficient. Care should be taken not to mistake the fibers of median nerve for the tendon. Cases had been found where the nerve ends had been sutured to the tendon by mistake. Great help could be obtained by following the nerve fibrils with a magnifying glass. A picture of the hand of a pianist was shown, in which restoration of function was complete after injury. Continuity of the nerve was restored, the nerve wrapped with a pad of fat, and the tendon sutured with silk.

DISCUSSION.

CAPTAIN LANGWORTHY, M.R.C., said that immobilization of wounds of the forearm and hand, and neglect of exercise, prevented men returning to duty on account of stiff hand. Gradual flexion would be found better than forced flexion under anesthesia. The use of a plaster bandage, 5 ins. wide and 5 yds. long, holding the wrist in dorsal flexion, would give absolute control of the joint and full extension of fingers, while only two weeks was required for treatment.

RE-EDUCATION IN THE FUNCTIONAL DISABILITIES OF ACTUAL WAR SERVICE.

CAPTAIN WILLIAM W. PLUMMER, M.R.C., A.E.F., presented this paper. This was the result of experience in the 2nd National General Hospital, under Dr. W. C. Morton of Leeds, England. Cases were found to differ greatly in degree of disability, from slight incoordination to malposition or deformity. Fixed flexion of hands—equino varus—was very common. The disability might or might not be related to the wound, and the mental equipment of the patient did not always bear upon the case. Before re-education the history and conditions are carefully analyzed. The patient is convinced by demonstration that the wound is not responsible for the symptoms. The degree of functional disability is noted. Treatment was made to include passive and active exercise, faradism, voluntary efforts on the part of the patient. Individual treatment of the cases was insisted upon and encouragement given. The patient was allowed to feel his troubles were real and that no stigma was attached. The patients were not segregated and the general tone was good and spirits high. The men were never treated as malingerers. It was found that the true malingerer would always overdo the part. It was impossible to re-educate such a case. The re-education was given in private until the patient acquired confidence, and the idea of what his muscles should do was always held before him. Hypnotism was never used. Marked improvement was shown in apparently hopeless cases. In the 300 surgical beds only one malingerer was detected in four months. Naturally the personnel of such a department requires very careful selection. A civilian practitioner, rather than an officer in uniform, was found the best director. The recovered cases were never fit for war duties and should be detailed to other employment.

A SYSTEM OF ORTHOPEDIC INSTRUCTION.

This paper was presented by Major R. W. Lovett, M.R.C. Experience had shown that in the intensive training of military surgeons that teaching, to be effective, must be more fundamental. The work was seen from a new angle, and consisted of graduate instruction, pure and simple. Mistakes of the surgeon would not be shown on examination paper, but failures would be demonstrated on the soldiers in camp, therefore the training of the camp orthopedic surgeon must be fundamentally thorough. It was of no use to talk about a tuberculous joint to a man who did not understand what a joint was. The study of the normal joint must be undertaken before the study of joint disorder. The vulnerability of the joint and its reactions to trauma and irritants should be taught. All subjects allied to orthopedic surgery should be covered, and the instruction should be as largely clinical as possible. Points of instruction should cover: (1) diseases of the neuromuscular mechanism; (2) passage of the nervous impulse from the cortex down; (3) lesions in the synapse, in the brain cortex, after leaving the cortex; (4) muscular lesions and disturbances of motor function explained; (5) explanation of lesions in weakened muscles, and the relation of flexors and extensors (the former being stronger than the latter and more apt to cause deformity) being demonstrated; inhibition due to cerebral lesions is analyzed; (6) peripheral nerve lesions studied; thus covering all points of the neuromuscular mechanism. The second part of the course would deal with static deformities, and the causes of muscular depreciation, foot strain, scolioses, etc., would be considered. This study would include mechanical peculiarities of the different joints and results of toxic invasion of joints. Here would be considered the indications for operation on general pathological and functional grounds. Tuberculosis, arthritis and syphilis would be considered in this connection. Growth and function of bones and bone lesions would next be dealt with. The last part of the course should cover the question of apparatus and artificial appliance; the reasons for application of apparatus and the suitability of plaster, iron or leather being shown. Under this subject would be included: (1) fixation, (2) traction, (3) support, (4) correction of deformities. Students would work out for themselves the mechanical need of the apparatus. In this connection, rickets, as a cause of bone disturbance, would be dealt with, and the student taught that the ossification must be brought to normal by diet, hygiene, etc., in addition to treatment by supporting apparatus. In conclusion, Dr. Lovett said that the students responded extremely well to such an intensive course as outlined. The whole aim of the work was to use education in its real meaning, that is, "drawing out" instead of, as was so frequently done, "putting in."

DISCUSSION.

DR. JOHN PORTER, of Chicago, said he would like to attend a course of instruction by Major Lovett; he spoke feelingly because he was a teacher himself, and he was afraid it was almost an impossibility to compress into a few months anything like the amount of work that Major Lovett suggested.

THE CAMP GREENLEAF SCHOOL OF CLINICAL ORTHOPEDIC SURGERY.

This presentation was made by MAJOR EMIL S. GEIST, M.R.C. At present it was stated that 1000 doctors were in course of training at Camp Greenleaf. A course of four weeks is spent in intensive training, in subjects necessary for every medical military man. This includes drill, physical training, military hygiene, and orthopedic surgery. The chief points aimed at are: (1) making the army fit for service, (2) keeping it fit. The camp is near a large hospital where clinical material is easily accessible and the patients are soldiers. The chief difficulty was found in trying to get the civilian to adopt the military viewpoint. Osler had said that "if a man understands typhoid well he has the foundation for internal medicine," and it could also be said that if a man understands a tuberculous joint he has the foundation for orthopedic surgery. The main point was to avoid deformity, and the treatment of the tuberculous joint lent itself to this study. An outline of the day's studies at the camp was given: drill, 7.30 to 9 a.m.; the men begin school at nine. Courses include: anatomy—neurological and pathological, x-ray diagnosis, nerve surgery, history-taking and recording; a special course on foot ailments, as applied to the soldier, is given. The importance of the latter could not be overestimated. There was also a literature course, and the students were encouraged to abstract and discuss the best available literature on military orthopedic surgery. One important item of the training was the making of models of braces and apparatus, the simpler the better, and a great deal was done with simple wire models which the graduate was able to carry about with him so as to be ready to apply the instruction in the first emergency.

THE MOVING PICTURE AS A METHOD OF TEACHING, WITH SPECIAL REFERENCE TO POST-GRADUATE WORK.

MAJOR R. T. TAYLOR gave this presentation. The great need of illustration in post-graduate instruction having been felt, the Surgeon-General's Office had undertaken to equip a Medical Art Department of the Army Medical Museum. This would furnish a post-graduate research library of the highest value, and the work of the Government should be enthusiastically supported by the profession in order to make this work a treasury for all specialties. The Government had to meet great demands, coming from all the camps, for moving picture illustration. Colonel Owen was at the head of this work, and he had undertaken to supply the illustration of such subjects as war neuroses, tendon and muscular transplantation, intestinal anastomoses, application of deep sutures, etc. These subjects were brought home to the student and fixed in the memory better by illustration than by any other means. In combination with suitable lectures, this teaching gave a higher average for the students than any other method. The advantages of the film were that they could not be lost or broken, as was the case with slides. The technics of different surgeons in this and other countries could be compared. In order to facilitate the work of the Surgeon-General's Office, a guarantee of safe return of films should be made and also, in order to prevent commercial monopoly, physicians having films arranged, should stipulate with commercial firms that a copy be placed on file at the Surgeon-General's Office, for use in the Army Medical Schools. Many of these films took six months to prepare, on account of the necessity of careful attention to detail and technical points, and it was up to physicians to see that this work was not lost to the profession by commercial greed. Coöperation with the Surgeon-General was essential in order that the full benefit of this work might result.

THE PROBLEM OF THE CHRONIC DISABILITIES OF THE SOLDIER.

This paper was given by CAPTAIN FRED J. FASSETT, M.R.C., A.E.F. It was stated that the chief hindrance to successful orthopedic surgery was found in sepsis. The time for treatment of compound fractures was, therefore, before infection had set in, if not, modern orthopedic methods could do nothing in the way of restoration of function. In the military hospital the surgeon had to encounter a certain attitude of resistance among the patients. The men wanted nothing better than to be let alone.

This inertia was a psychic factor difficult to explain, but necessary to combat. It was the reaction after two or three years of abnormal trench life, and the wounded man had lost connection with the military side and had not yet reëstablished it with civilian life and duties. Mental readjustment would take time, and the men do little to help themselves. The inspiration must come from the doctors and nurses. Prolonged hospitalization was found to have a depressing moral effect, and a man unfit to return to military life should be at once put in relation with the outside world, and helped to find his new industrial station. An Out-Patient Annex Department could bridge over the gap and care for these patients in their new start in life. Without this help at the difficult point of readjustment, the returned soldier was apt to remain a moral as well as a physical cripple.

SOME ASPECTS OF THE MILITARY MASSAGE PROBLEM.

This paper was given by Miss Marguerite Sanderson (by invitation). This problem, the author said, was not so much a technical one as it was a question of administration. The types of cases to be treated were largely comparable to injuries in civil life, but the treatment was necessarily more intensive. A knowledge of anatomy was imperative and an individual study of each case was necessary, as the same lesion in two different patients could not always be treated alike. The patient's cure might be said to depend in a great measure on the moral force of the masseur or masseuse. Women of thorough and special training and with education and intelligence were needed for the work. The massage was coincident with re-education, and a knowledge of anatomy, physiology, and medical gymnastics was essential. The support of orthopedic surgeons was necessary to give the proper status to the kind of women needed for the work in the military hospitals. To keep the standard of the work high, the position should be made dignified and responsible, and proper compensation be allotted. This would be brought about by the influence and co-operation of the orthopedic men. At present there was a lack of proper coördination in the physico-therapeutic treatment in all its branches. To obtain the best results, all sides of the treatment should be considered in their relation to the whole, and all the workers should keep true to the vision of the returned soldier as a rehabilitated citizen.

ELECTRO- AND HYDROTHERAPY.

This presentation was made by Lieut.-Col. R. Wilson, R.A.M.C., Ottawa, Canada (by invitation). He said he would devote the time allotted to speaking of experience in England and France. The American Medical Reserve Corps seemed to be groping for information of all kinds which had a practical bearing on military questions. Therefore, though his remarks might be somewhat rambling, he hoped that some of the things they might gather would be helpful. Electro- and hydrotherapy were only two of the many methods used in the cure of wounded and disabled soldiers. It was necessary to ask two questions: (1) What are the conditions calling for physical remedial measures? (2) What remedial measures are best able to achieve the end in view? One must discover if the results justified the money expended on personnel and equipment necessary to give the treatments in the requisite manner to do most good. It was also necessary to consider what modifications a man might make for himself in applying these measures when used in private practice to adapt them to the large number of men who returned and who would not be reclaimed by the army. Colonel Wilson said that he believed in the Socratian method of asking questions and getting the men to answer them for themselves, as the working out of the problem would do more good than having the answers given. In England and France it had been found that the greatest interest attached to the nerve injury. It presented the most puzzling problems and those with which medical men were least acquainted. Next came injury to joint function, most important to the patient himself and second in interest to the orthopedic surgeon. Injuries by large loss of tissue and replacement by scar tissue needed special study, and, lastly, those various neuroses classed as "shell shock," doubtless because they had nothing to do with shells and very little with shock. Perhaps *fatigue neuroses* would be the better term. There were also cases of war nephritis, due purely to exposure, and different from nephritis of infections, known as "trench nephritis." Here one could ask what were the phys-

ical remedial measures to be employed in treatment. Colonel Wilson said that if he had to choose one method to the exclusion of any other, if he had to select one form of treatment and *nothing else,* he would choose treatment by a well-trained masseuse, who understood anatomy and physiological function. In regard to hydrotherapy,—in England there had been installed what were called "au courant baths," that is, those in which the water was kept continually in motion by means of nozzles of compressed air. This was similar to the "whirlpool bath," in which two nozzles forced the water in opposite directions. In the still bath there was always a layer of cooler water forming next the body, and the whirlpool bath did nothing more than to keep an even temperature round the limb. The addition of compressed air to the bath was supposed to keep up a certain definite massage of the limb by the pressure of air bubbles, but the speaker said he was not convinced that the results claimed justified the extra expense of this apparatus. Where water is scarce, however, it was cheaper than a continual flow of running water. In addition to hydrotherapy, massage was given, and this was thorough and specific in regard to the patient's disability. The treatment by the "au courant bath" cut down the time necessary for massage by one half, by relaxation of the muscles and loosening of the lymphatic circulation. When one came to the question of electrotherapy, one was upon debatable ground. There was great dispute among the authorities as to what effect electricty has upon the tissues. The effect was not really known. Lucas had devoted a great deal of time to the question and considerable experimentation. Colonel Wilson said he was inclined to agree with the results of Lucas and to say that the only effect obtained from nerve impulse and muscle response is generation of an electrical current. The amount of heat induced is so infinitesimal as not to be measurable. The nerve impulse travels 123 meters per second, and the electrical current simply equals a volitional impulse, and vice versa. In rabbits it had been found that those allowed to use their limbs regained function more rapidly, therefore the volitional impulse had a certain definite influence on the nerve fibrils. In treatment, Colonel Wilson said it was his custom to give a continuous current from above down for half the time, and then to stimulate the muscle by other means for half the time. In discussing the matter with Colonel Starr, the latter had said that it did not do harm, and might do good, and Colonel Wilson said he felt that it did good and did not do harm, so that they were both in perfect agreement on the matter. Colonel Wilson said he felt that the contraction of muscle depended upon the number of nerve fibrils supplying the muscle. In cases of partial paralysis, the symptoms were not due to the fact that the whole muscle contracted less, but that parts of the muscle did not contract at all. A common mistake was to suppose that a muscle severed from its nerve would respond to faradic stimulation. This was impossible. The properties of electricity were the same, no matter where obtained, whether 3000 volts or 20,000 volts, whether it goes backwards or forwards, up or down, the important point was the effect upon muscle tissue, the severed muscle tissue could not respond. With the nerve intact, the response would be to a current alternating as little as .008. In using the condenser there was a difference which pole was used. For treatment of a paralyzed muscle, in conjunction with massage, the galvanic current was used. It must be remembered that the weak muscle would not do as much as the strong muscle, and that nothing should be done to jerk suddenly the weak muscle. One must not insult a damaged muscle. The Wappler machine with the interpolated current was to be preferred to the use of the metronome. The electrician could adjust the wiring so that the cathode or the anode could be used, or the two alternating. This could be used for ionization treatment. In the treatment of ill-defined pains in war neurasthenia and neuroses, sodium salicylates could be given at the back of the neck or chlorides of sodium or potassium. With this was used 80 milliamperes of current for half an hour. For reduction of high blood pressure the high frequency current was used. Very often in war neuroses there was high blood pressure with associated kidney condition. Care should be exercised in this treatment, as a very rapid drop might occur with dangerous results. In one patient this had been as much as from 160 to 110. The man was found unconscious. The high frequency current caused diathermy, and its therapeutic effect was due to this occurrence. In advocating all these remedial measures one should not forget the education of the mind in the establishment of volitional power.

Upon the return of volitional power the electrotherapy should be dropped to a minimum. In Canada the use of schools of physicotherapy was found important. The medical man had to be taught first, in order that he might teach the people afterwards. The assistants in physicotherapy were being trained in such a manner that they could not leave the hospitals and claim to be graduates of any branch, and so impose upon the public. Masseuses and masseurs were allowed to do that work only. Certain men were trained to give the electric current only. The bath attendants were not allowed to give massage at all. Those teaching re-education of function did that and nothing else. Thus each assistant was put, as it were, into a water-tight compartment which entirely prevented the letting loose of half-baked practitioners who might do incalculable harm by a half knowledge of the subject. Many men were being put upon the work of devising apparatus, and it was being made impossible for manufacturers to get hold of these ideas and patent them. The Government held the ownership of all such apparatus and the distribution of such to all hospital centers. In conclusion Colonel Wilson said that they received numerous petitions from American physicians to come to Canadian military hospitals to learn; it would be utterly impossible to accept all that applied, and the only way was for applicants to enter as duly accredited delegates from the U. S. Government, in order to avoid being classed among those individuals who wanted to make a sort of Cook's tour of the hospitals for their own purposes. Such government credentials would ensure attention and avoid abuse of privilege.

(To be continued.)

Book Reviews.

Blood Transfusion, Hemorrhage and the Anaemias. By BERTRAM M. BERNHEIM, A.B., M.D., F.A.C.S., Instructor in Clinical Surgery, The Johns Hopkins University; Captain, Medical Officers' Reserve Corps, U. S. A. Philadelphia: J. B. Lippincott Co., 1918.

Owing to Dr. Bernheim's sudden departure for foreign war service, this book has been published without opportunity for the author's final inspection and revision. This is unfortunate, for upon reading the book, one is left with the impression that its 247 pages have been hastily put together. It is written in a rather colloquial style, and there are numerous rather detailed experiences with personal cases. Theoretical considerations have been purposely eliminated. As stated in the preface, "The book is meant for the man who is engaged in clinical work and desires to know concretely what is being done with transfusion, and how to do it." It serves this purpose fairly well, but is not so concrete and complete as one might expect it to be.

The Spleen and Anaemia. Experimental and Clinical Studies. By RICHARD MILLS PEARCE, M.D., Sc.D., Professor of Research Medicine; EDWARD BELL KRUMBHAAR, M.D., PH.D., Asst. Prof. of Research Medicine; and CHARLES HARRISON FRAZIER, M.D., Sc.D., Prof. of Clinical Surgery; University of Pennsylvania. Philadelphia: J. B. Lippincott Co., 1918.

With the interest that has developed in recent years in regard to splenectomy for various conditions, this volume is to be most definitely welcomed as a valuable contribution. The book is divided into three main parts. The first, by Dr. Pearce, deals with the experimental and metabolic study in animals and the relation of the spleen to blood destruction and regeneration, and to hemolytic jaundice. Metabolic changes in man, before and after splenectomy, are considered also. The second part, by Dr. Krumbhaar, is concerned with clinical studies of the splenomegalies that are especially associated with anemia and not with infections or leukemic states. The third part, by Dr. Frazier, takes up the surgical aspects of splenectomy. Much of the subject-matter of the book represents rewritten articles that have appeared in the last five years by the authors and their associates, especially Drs. J. H. Austin and J. H. Musser, Jr., and O. H. Perry Pepper. One is inclined to feel that there is relatively too much detail given in the first part, that occupies nearly two thirds of the book, especially when compared to the concise and satisfactory, but not wholly complete, observations of the second and third parts. A few errors have been found in the bibliography of 456 references; some references are possibly misquoted, while certain other references might have been added. Some of the 16 illustrations in the book might be rather better, especially that of the reticulated red cells, which is poor. However, one should overlook small defects, as the authors are all now in the service of the Government and undoubtedly had to complete the last details of publication hastily. The book should be found on the shelves of all medical libraries, and is valuable to any one who is interested in blood conditions.

Treatise on Fractures. By JOHN B. ROBERTS, A.M., M.D., F.A.C.S., Professor of Surgery in the Philadelphia Polyclinic and College for Graduates in Medicine; Sometime Chair-

man of Fracture Committee of American Surgical Association; Membre de la Société Internationale de Chirurgie; and JAMES A. KELLY, A.M., M.D., Attending Surgeon to St. Joseph's, St. Mary's, and St. Timothy's Hospitals; Associate in Surgery in the Philadelphia Polyclinic and College for Graduates in Medicine. With 909 illustrations, radiograms, drawings, and photographs. Philadelphia and London: J. B. Lippincott Company.

It is impossible to examine Roberts and Kelly's book on Fractures without comparing it with the book written by Speed, recently reviewed in these columns. Roberts' is the smaller book of the two, both in the number and the size of the pages. Roberts' is even more profusely illustrated, a very large proportion of the illustrations being half-tones of patients, lesions, or x-rays; comparatively few being tracings from plates. We referred to Speed's book as being essentially a Middle West production; Roberts' is just as obviously written from a Philadelphia viewpoint. Stimson of New York, Scudder, as well as Cotton, of Boston, Roberts of Philadelphia, and Speed of Chicago, give us together a series of volumes which accurately reflect the American conception of fractures and their treatment, as it exists east of the Mississippi.

Roberts' book contains the well-digested judgment of personal experience, as well as a summary of the views of others. The opinions expresed are unequivocal; the treatment suggested is definite and certain. It seems to be a book of very real value, both to students and to practitioners; to students because it is authoritative and dogmatic; to practitioners because the sometimes conflicting ideas of others are considered and given due, but not overdue, value. The attitude toward operative treatment is sound and reasonable, the comment upon suture of closed fracture of the patella on page 532 being an excellent example of an admirable viewpoint.

Pathological Lying, Accusation, and Swindling. By WILLIAM HEALY, A.B., M.D.; and MARY TENNEY HEALY, B.L. Boston: Little, Brown and Company.

Dr. Healy has had an exceptional opportunity for the study of a great variety of pathological mental conditions because of his connection with the Juvenile Court of Chicago, which makes him one of our foremost authorities upon such subjects. This book is another notable contribution of his to a portion of the field which has occupied him, and it should be widely read and studied by all who come in contact with the problems which continually arise in connection with sociological work. Instances where the problems of which this book treat, are of the greatest importance to many workers, judges, lawyers, sociologists, and charity workers, no less than to physicians. The importance of this book, too, is increased very much by the fact that comparatively little has been written in English upon this subject, the most important writings upon it being in foreign languages, and scattered in periodicals, many of which are comparatively inaccessible. Dr. Healy defines pathological lying very clearly, and well, in his introductory chapter, as falsification entirely disproportionate to any discernible end in view, engaged in by a person who at the time of observation cannot definitely be declared insane, feeble-minded or epileptic. Such lying rarely, if ever, centers about a single event; although exhibited in very occasional cases for a short time, it manifests itself most frequently by far over a period of years, or even a lifetime. The close relation to pathological lying of the pathological accusations and swindling makes their inclusion in this volume both natural and convenient. It is gratifying to find, too, that the author admits that in much of his experience in the work of the juvenile courts, the lying found is so intimately mixed up with other delinquencies or unfortunate sex experiences that the lying, after all, cannot be regarded as purposeless. As has been well said by one writer on psychopathology, the ignorant do not see the essential facts of pathological mental conditions, the half educated see too much, while only those with great experience and careful training can distinguish the real pathological examples from the misleading ones, and the same balance which the authors of this book show on almost every page, shows that their work is that of the true, trained expert who is fitted by both study and experience to guide others.

The exclusion from pathological lying of the cases in which this is merely an episode in a hysteric, imbecile or case of beginning insanity is justified, and the reasons made clear to the reader. Among the conclusions which are of the greatest interest to the physician, are those that these cases show a strong psychopathological hereditary taint; six cases of nineteen studied showing, for instance, insanity in the direct family, four of these being in a parent, while other forms of taint were also frequent, and in only two instances did reliable data show normal family stock.

If there is a lack in this book, it is only that one cannot help wishing, as the studies of the individual cases are given, that they might have been given much more in detail, though this condensation was undoubtedly necessary from the plan of this book, and the attempt to keep it within a reasonable size; and, considering these limitations, the task has been accomplished with wonderful success.

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VITAMINE BALANCING.

MUCH light has been thrown upon the nature of rational dietetics and the prevention of certain specific nutritional diseases by the study of vitamines. Not until recently was it very definitely understood not only that it is necessary to ration from the standpoint of the three food elements,—the proteins, the carbohydrates, and the fats,—but that there is an other element of the food that must be considered of equal importance. For want of a better, more descriptive name, this vital food element is called "vitamine." It is quite possible to balance the ration and yet have a food that is, either intrinsically or through the mode of preparation, lacking in vitamines, and which will cause one or other of the specific nutritional diseases, such as beriberi, scorbutus, pellagra, rachitis, or some of the more general evidences of malnutrition. But even the presence of food rich in vitamine is not sufficient to anticipate nutritional disturbances unless the food is so mixed or balanced that there will be present a number of all the necessary vitamines. The body cannot get along with one vitamine any more than with one food element, no matter how much of it there is. While all food contains some vitamine, some foods are very poor in it, and if they form the chief articles of diet it can be seen that nutritional disturbances are bound to follow. Likewise, even though a food has sufficient vitamine, the latter may be destroyed by preparation or otherwise, and the same result follow as if the food were lacking in vitamine. Food vitamines vary in character, so that one vitamine cannot take the place of another, which may be lacking, by increasing the quantity of the first.

Of the non-food substances found to be rich in vitamine, yeast—brewer's yeast—seems to hold first place. In animals experimented upon by feeding them on food lacking in vitamine, and in whom neuritic symptoms were produced, suggestive of beriberi, by feeding them with yeast extract of brewer's waste extract, the condition was either prevented or cured. Brewer's waste freed from the vitamine made a good vitamine-free food with which to experiment. Yeast extracts have been used in a few instances as a therapeutic measure in infants in idiopathic malnutrition with varying success. The question of the adjustment of dosage must first be settled before any extensive work with human beings can be done. But it can be seen that the brewer's product—the beer—would be rich in these vitamines, and in a concentrated form. It is not impossible that hard workers who cannot, perhaps, afford the choice of food containing the vitamines, demand beer because it contains the vitamines in concentrated but cheap form. Since the question of the alcohol content of the average beer is negligible, it is, in all likelihood, not wise to withdraw the beer allowance from the laboring element who demand it.

The value of butter fat in butter, cream and milk, and the fat of cod liver oil in the treatment of rachitis is due to the presence of large quantities of anti-rachitic vitamines in them. It is for this reason that these forms of fats must be conserved for children when there is a fat shortage. The animal fats, the various margarines, are very low in this form of vitamine, and while they may and ought to be fed to adults, they are distinctly harmful to children.

The Lister Institute of London found that in respect to the prevention of beriberi, the embryo of the grain of the cereal was even richer in anti-beriberi vitamine than the cortex. When over-milled, according to modern milling methods, this destruction of vitamines had to be made up from other sources. There is waste, then, where none need have occurred. The appearance and the taste may be better in the over-milled or bleached product, but the food value is practically destroyed. The greatest anti-beriberi vitamine is contained in unmilled cereals and pulse, where the vitamines are concentrated and more or less uniformly distributed; and eating the whole product insures the greatest quantity of vitamine. Eggs, or egg preparations, contain many anti-beriberi vitamines, but it must be remembered that if raw egg-white is consumed, the vitamine is lost because the colloidal nature of the raw egg-white prevents its digestion; but when properly prepared, it is one of the most prolific sources of vitamine, but, of course, very expensive. While the cereals contain the anti-beriberi vitamine, they seem to lack another vitamine necessary to prevent another nutritional disease, namely, pellagra. Cereal products lack the anti-pellagra vitamine, and unless this deficiency is made up from other sources, pellagra must develop. In the South, the presence of so much pellagra seems to be due to the exclusive consumption of cereals, because they are cheaper than other foods. Yeasted flour contains much vitamine, but a great deal of it must be ascribed to the vitamine in the yeast. Meat and fresh vegetables contain moderate amounts of vitamine, but not in very concentrated form. In the case of meat, the consumption of large quantities is harmful to metabolism, from the over-ingestion of proteins, and yet the vitamine consumed is not proportionally beneficial.

The keeping powers of most vitamines are good. They can be heated to moderate degrees of temperature without harm. Some are more hardy than others. The anti-beriberi vitamine can be heated even up to 100° C. without harm. The anti-scorbutic and the anti-rachitic vitamines are more delicate in respect to heat. Canned foodstuffs that have been superheated in the canning process are usually lacking in vitamines because destroyed by the heat. Ordinarily, no matter what the food that is canned, it cannot prevent nutritional disturbances if the sole article of diet. It can be made only a small part of the dietary with safety. Some fresh food is always essential in the dietary, in order that nutritional processes may go on undisturbed. While citrous foods are strongly anti-scorbutic because containing much anti-scorbutic vitamine, the commercial preparations are valueless. Most fruit pulps are poor in vitamines. The anti-scorbutic vitamines soon disappear from food when kept at room temperature, but are preserved for a long time by refrigeration. In the same way, heating milk, even if only to the point of pasteurization, destroys the anti-scorbutic vitamines. Boiled, or even pasteurized, milk is not, therefore, a good diet for infants except as it renders the milk safe from pathogenic organisms. If raw milk could be consumed with safety it would be the best safeguard against scurvy or rachitis. Incidentally it may be noted that fresh cabbage is rich in anti-scorbutic vitamines. During germination of seeds the vitamines are most developed; they are present at this time when not present at other times. This fact has been taken advantage of in foods usually considered poor in vitamines.

In respect to war-time food conservation, it would seem that such food as contains much vitamine would be the subject for intensive cultivation or preparation, to the prejudice of others lacking in vitamines. But no such real distinction between the vitamines can be made, because they are all necessary. All of them seem to have a place in nutrition and to be active in the prevention of one or other form of nutritional disturbance. It is more rational to consume small quantities of food properly balanced as to ration and as to vitamine, because it is the mixture that is desired, and the minor vitamines play as important a rôle as the major ones. Hunger is more easily appeased by small quantities of mixed rations than by large quantities of unmixed or unbalanced diets. As a measure of conservation, it is highly essential to preserve the vitamines of the food by preventing over-milling or other forms of artificial preparation inimical to them.

THE WAR AND INTERNES IN SPECIAL HOSPITALS.

FOR two reasons the Department of the Surgeon-General of the Army has signified its

desire to promote the education of internes in proper hospitals for as long a period as the exigencies of war will permit: Primarily, that the future military surgeon may begin his medical career with as much professional experience as possible; secondarily, so that the organization of hospitals for civilian treatment and for instruction of physicians and nurses may not be unnecessarily disrupted.

How far do these considerations apply to certain special hospitals, such as hospitals for women, children, consumptives, eye and ear cases, and insane, and what should be the policy of the Army with regard to internes in such institutions?

It seems clear that thorough education in all types of cases treated in the above, except maternity and children's hospitals, will have definite value for military purposes and that the same policy with regard to internes in these should be followed as in general hospitals. Probably the children's hospitals may be placed in the same category as the others, as the medical and surgical experience gained therein is such as to afford a substantial foundation for military service, and this, taken into consideration with the desire to preserve the hospital organization, should warrant the placing of children's hospitals on the same basis as general hospitals so far as interne service is concerned.

With hospitals for women the situation is very different. Service therein is intensive in a branch of medical science which has no direct relation to military needs, and therefore such hospitals cannot receive the same consideration as other hospitals as places of preparation for military service.

On the other hand, it would seem that in such hospitals the organizations could be properly maintained by the aid of personnel not fitted for army service. Not every medical student is eligible for active military service of the kind to be anticipated and desired by the young medical man who has at last reached the place in his career where he can be of great value to the country.

General hospitals should give first choice to those who are physically fit for the work in the Army and Navy, while young men who are not physically handicapped should equally seek interneships in hospitals where they can obtain the best possible training for military service. Those who, by reason of physical disqualifications, are not entitled to enter the country's service in its military branches should welcome the opportunity to aid in its general efficiency by engaging in other work essential to welfare.

Thus, by coöperation between hospitals, and between hospitals and student, can we come nearer a solution of the tremendous problem of making the supply of medical men meet the requirements of war.

With the use of women physicians, medical students and the proper allotment of student internes to places where they can be of the greatest use according to their qualifications, it would seem that an obvious difficulty may be at least minimized, and the authorities in medical schools can aid materially in advising their young men as to the proper course to pursue. Some men who have a special interest in obstetrics and gynecology may dislike to abandon the opportunity to specialize in such branches during the period of their interneship, and surely the country cannot afford to be without the services of men so especially educated; but the needs of our fighting men are immediate and imperative, and our young men will no doubt be willing to sacrifice their personal ambitions for a time, as many of the older men of the profession have already done.

The foregoing is the result of interviews with officers of the Surgeon-General's Department by a representative of the American Hospital Association. It has been submitted to them and is believed to represent fairly the policy of the Department with regard to internes in special hospitals.

FOUR-DAY PUBLIC HEALTH SCHOOL.

Much credit is due the Committee on Public Health of the Massachusetts Medical Society for the success of the Four-Day Public Health School which was held May 28-31. Over 225 people were in attendance, representing 61 towns and cities in Massachusetts, 7 other states and 2 foreign countries.

The entire program was presented as scheduled, without a change in speaker or in time, the average attendance at the sessions being about 60.

The session held at the Massachusetts Institute of Technology on Thursday evening had

the largest attendance. Addresses delivered by Capt. Dr. René Sand of the Belgian Army and by Dr. W. W. Peter, director of Public Health Education in China, were most unique and highly appreciated.

The papers delivered at the various sessions were of a uniformly high quality, and to the speakers is due the appreciative gratitude of the organizations coöperating to make the School a success, and of the delegates in attendance.

Representatives of the coöperating agencies, namely, the State Department of Health, the Massachusetts Association of Boards of Health and the U. S. Public Health Service, took part in the program and furnished chairmen for some sessions. The three members of the Committee on Public Health having the immediate care of the arrangements are Dr. Enos H. Bigelow of Framingham, Dr. E. F. Cody of New Bedford and Dr. Annie Lee Hamilton of Boston.

MASSACHUSETTS MEDICAL SOCIETY—ONE HUNDRED AND THIRTY-SEVENTH ANNIVERSARY.

THE Massachusetts Medical Society will observe its 137th anniversary in Boston on Tuesday and Wednesday of next week, June 18 and 19. Attention is directed to the complete program of exercises which appears in another column of this issue of the JOURNAL. Conditions associated with the war will make the sessions this year of unusual interest. Many more members of the Society are absent in the active service of their country than was the case a year ago, and their example will be felt as an inspiration by all who must remain to carry on the work at home. It has wisely and fittingly been decided not to hold the annual dinner this year. Complete report of all the sessions and the entire text of papers presented will appear in successive issues of the JOURNAL during the summer.

REPORTING OF GONORRHEA AND SYPHILIS.

AT a meeting of the Public Health Council, held May 21st, the following regulation was adopted as an addition to the Regulations Governing the Reporting of Gonorrhea and Syphilis.

"*Regulation* 9. Whenever, in the opinion of the physician reporting the case, because of circumstances or conditions present, the protection of the public health demands immediate action by the local board of health, he shall forthwith report the facts as prescribed in Regulation 7 to the State Department of Health, which shall, in turn, proceed as prescribed in Regulation 8."

By direction of the Commissioner of Health,

JOHN S. HITCHCOCK,

Director of Division of Communicable Diseases

MEDICAL NOTES.

PROGRESS OF VENEREAL DISEASE CONTROL.—The United States Public Health Report for May 24, 1918, contains an article on the progress of venereal disease control; it explains the organization of the work which has been done and the regulations which have been adopted by different states. The report contains, also, tables showing the prevalence of malaria in certain states, the prevalence of diseases both in the extra-cantonment zones and among the troops in the United States, and state summaries and foreign reports.

TRUDEAU SANATORIUM.—The thirty-third annual medical report of Trudeau Sanatorium, New York, has been submitted for the year 1917. During the past year, two sessions of the Trudeau School of Tuberculosis have been held. The medical report shows that more patients were treated, they remained a shorter time in the Sanatorium, and the immediate results were much better than in previous years. Many medical problems have been studied, including the effect of typhoid fever and its vaccine upon tuberculous patients. The research and clinical laboratories have been very active and many complement-fixation tests have been made. The work of the x-ray department has progressed favorably. In the D. Ogden Mills Training School of Nurses, the lecture courses have been re-systematized. Every week, there has been held a diagnosis conference of the medical and nursing staff; these have been of great value both to the staff and to the students. The re

port includes the thirteenth medical supplement, and the following studies: "Serological Studies in Tuberculosis," "Prognosis in Tuberculosis from the Standpoint of the Occurrence of Hemoptysis and Tubercle Bacilli in the Sputum," "The Pleural Reaction to Inoculation with Tubercle Bacilli in Vaccinated and Normal Guinea Pigs," and "Experimental Tuberculosis of the Liver."

FIVE THOUSAND ARMY NURSES WANTED.—Special committees to recruit 5000 trained nurses, sorely needed in the Army, are being organized in all the cities within jurisdiction of the Atlantic division of the American Red Cross. The campaign will begin on June 3, and will be continued ten days. While the immediate goal is 5000 nurses, it will be necessary to have 10,000 available before January 1, 1919, from the Atlantic division alone.

The Red Cross will seek to impress upon the public the fact that services of nurses should not be used in private cases, except cases of life and death. Doctors, too, will be urged to dispense with nurses so far as possible. Those who are married and not actively engaged in their profession or otherwise ineligible for war service, will be asked to become "home defense nurses." These nurses will be assigned for a few hours daily to work in baby-saving stations, in hospitals, or in private families where the need is urgent.

BUBONIC PLAGUE ON STEAMSHIP "SOMALI."—When the steamship *Somali* arrived at Gravesend on May 30, from Bombay, it was found that three members of the crew were suffering symptoms suggesting the bubonic plague. Two cases, one of which ended fatally, proved to be the plague. During the voyage several rats were killed in the storeroom. The ship is now moored off Gravesend. It will be disinfected and all the rats on board will be killed.

WAR NOTES.

AMERICAN PHYSICIAN HONORED.—Lieutenant J. T. McCarthy, attached to an Essex regiment, one of the first American doctors serving in France, has been awarded the British military cross.

MEDICAL APPOINTMENTS.—The following appointments in the Medical Reserve Corps have been announced: First lieutenants: William E. Gallagher, Camp Devens; Robert M. Lord, Children's Hospital, Boston; and Carl C. Persons, St. Luke's Hospital, New Bedford.

TWELVE AMERICANS HONORED.—The British military cross has been awarded twelve Americans of the United States Army Medical Service: Captain Thomas Walker, and Lieutenants Linwood M. Gable, Arthur I. Haskell, James B. Clinton, Samuel Adams, Gouverneur Boyer, Harold Foster, John Gregg, Albert I. L. Jones, Baldwin L. Keyes, Guy D. Tibbetts, and Harvey C. Updegrove.

BAY STATE NURSES CALLED.—Surgeon-General Gorgas has sent an urgent request to the American Red Cross for 1000 trained nurses. These nurses must be enrolled and on duty by the middle of June.

They will be used in the hospital service of the United States both at home and abroad.

As soon as this quota is filled, 24,000 more must be enrolled by the end of the year.

Application can be made to local Red Cross chapters and to the Nursing Department of the New England Division headquarters, 755 Boylston Street, Boston. Massachusetts is expected to supply 387 of the first 1000, and 1580 of the next 24,000.

ARMY HEALTH CONDITIONS.—Health conditions among the soldiers in divisional camps and cantonments are better now than at any time since last November. There has been a marked decrease in the death rate, a rapid falling off in the number of pneumonia cases and fewer cases of measles. The death rate for the week ending May 24 was 1.90 in the divisional camps. This group has, also, the lowest sick rates.

SICKNESS IN GERMAN ARMY.—It is reported from Amsterdam, in a message of April 24, that, according to a Berlin telegram, Surgeon-General Schultzen, speaking in the Main Committee of the Reichstag on the health of the German Army, said:

"The general state of health of the troops is very good. The rumors regarding the increase of venereal diseases are exaggerated. In the field army the number of cases remains some percentage points lower than in the last five years of peace. They have further decreased in the past year, as also in the home army, where they are slightly higher than in peace time.

"We have discharged something over 37,000 men on account of tuberculosis, whereas the French discharged 88,000 in the same period.

"About 90 per cent. of those discharged from the hospitals are fit for further military service, and 70 per cent. for service at the front. About 1 per cent. of those discharged have died. Suicides in the army have considerably decreased. As compared with the first year of the war, cases of sickness have declined 35.5 per cent."

TUBERCULOSIS IN GERMAN PRISON CAMPS.—The Rockefeller Foundation has been invstigating the reason for the spread of tuberculosis among the captured Allied soldiers in German prison camps. Dr. Livingston Farrand, who, for a year has been director of the Rockefeller Foundation Tuberculosis Commission to France, believes that this condition is due to overcrowding and not to a deliberate attempt of the Germans to spread germs among the soldier prisoners.

George M. Vincent, president of the Rockefeller Foundation, who has spent two months inspecting its work in England, France and Italy, has reported that the Foundation's medical staff in France, headed by Dr. Selskar Gunn of the Massachusetts Institute of Technology, is making rapid progress in teaching French doctors and nurses how to take up the fight against tuberculosis. The American Red Cross is cooperating with the Foundation.

WAR RELIEF FUNDS.—On June 4, the totals of the principal New England War Relief funds reached the following amounts:

Belgian Fund	$679,260.39
French Orphanage Fund ..	367,395.37
Syrian-Armenian Fund ..	306,418.67
Italian Fund	174,391.90
La Fayette Fund	39,068.23

GRIPPE EPIDEMIC IN SPAIN.—Apparently Spain is in the midst of an epidemic which is spreading rapidly. The exact nature of the disease has not been determined; it is not, however, fatal. Reports from the provinces show that 30% of the population is affected. Business life in Madrid is almost paralyzed; theatres and moving picture houses are deserted; tramways have reduced their service by two-thirds bcause of illness of employees.

King Alfonso and many other prominent persons, including the President of the Chamber of Deputies, the Ministers of Finance, Marine, and Public Instruction, and the Under Secretary to the President, are suffering from the disease. In Madrid there are more than 150,000 persons afflicted and there are many victims in Barcelona, Sargossa, and other provinces. The malady extends to the Canary Islands. Several regiments are almost entirely on the sick roll and the military authorities have suspended all manoeuvres. The mortality continues low. The fact that more than six hundred doctors are suffering from the disease hampers an efficacious fight against the epidemic.

Extra precautions have been taken along the French frontier to prevent the spread of the Spanish epidemic into France. Apparently the disease is influenzal in character.

MAJ. HARVEY CUSHING HONORED.—Major Harvey Cushing of the United States Army Medical Service, has received an honorary fellowship from the Royal College of Surgeons of Ireland at Dublin. Major Cushing, thanking the college, is reported to have said:

"America is in the war 'with both feet,' and has made the discovery that Germany is an insane nation. There was some delay, due largely to the fact that the United States has a very mixed population and that, while Americans of 100% were wanted, there were, in the beginning, many who graded from 50% upward. But now, like its neighbor Canada, America is in the war as a united country.

"You here in this beautiful land are next to us, and we expect you to be in as a country and you certainly will. I know the Irish. There are more Irish in America than here; more, I think, in Boston than in Ireland, and it is true that the Irish, wherever they are, are on the top. If there is any trouble, if anyone needs support or counsel, he is sure to find an Irishman on his right or left hand. I know what Ireland already has done in the war. Nothing has been finer than the work of the men from Dublin and Munster in Gallipoli. All last summer I was behind the army in which the southern and northern divisions were fighting side by side and nothing better was done than the work of these soldiers. The time is coming when there will be universal military service in every country, thus making for a sense of devotion to one's country which comes only from giving service to it."

BOSTON AND MASSACHUSETTS.

Week's Death Rate in Boston.—During the week ending June 1, 1918, the number of deaths reported was 188, against 271 last year, with a rate of 12.49, against 18.30 last year. There were 33 deaths under one year of age, against 42 last year.

The number of cases of principal reportable diseases were: diphtheria, 47; scarlet fever, 25; measles, 269; whooping cough, 44; typhoid fever, 1; tuberculosis, 57.

Included in the above were the following cases of non-residents: diphtheria, 17; scarlet fever, 3; measles, 5; tuberculosis, 11.

Total deaths from these diseases were: diphtheria, 4; measles, 5; whooping cough, 6; tuberculosis, 19.

Included in the above were the following non-residents: diphtheria, 1; tuberculosis, 1.

Cambridge Hospital Nurses' Home.—The new nurses' home at the Cambridge Hospital was opened to visitors for inspection on June 4.

Graduation Exercises of the Boston City Hospital Training School for Nurses.—Before a large audience composed of friends of the class and officials of the City Hospital, the 39th annual graduation exercises of the Training School for Nurses were held May 31. Thirty-five members were awarded diplomas. The total number of graduates now is 1300.

Addresses were made by Dr. George W. Gay, senior surgeon, Dr. George C. Sears of the Hospital Staff, and Mayor Peters. Dr. Gay made a plea for nurses for Government service, saying that the demand was for fifty thousand, while the available supply comprised only the forty thousand in the training schools of the country. Dr. Sears made a comparison of the nurses of today with those of thirty years ago. He also presented the diplomas. Mayor Peters spoke of the demand for the woman power as well as the man power of the nation. He lauded the work of Base Hospital Unit No. 7, organized at the City Hospital and now in national service.

A prize of $10 in gold, offered by Miss Anna Gibson of the class of 1917, for the best standing in laboratory technic, was awarded to Miss Winifred Helen Macomber.

Memorial Hospital for Dedham.—George H. French has left the residue of his estate, amounting to several thousand dollars, to the town of Dedham, Mass., for the purpose of establishing the Olive Cheney French and George H. French Memorial Hospital Fund. The town will use the interest of the principal for immediate hospital purposes.

Scarlet Fever Epidemic Closes Schools of Hardwick.—Five cases of scarlet fever have been reported in Hardwick, Mass. The State Board of Health has ordered that all schools be closed.

Effect of Freezing on the Organisms of Typhoid Fever and Diphtheria.—The outbreak of diphtheria and typhoid fever during the summer of 1917 led to experiments by the Massachusetts State Department of Health on infected ice cream, to determine whether typhoid bacillus and diphtheria bacterium would survive freezing. In both cases, the organisms were found to survive freezing, and there is no doubt that ice cream is a very effective agent for distributing infection.

Infants' Hospital.—The Infants' Hospital has submitted its 35th annual report, for the year 1917. During the year, the Hospital has cared for 728 babies. Thirty nurses have received their diplomas and 78 nursery maids have finished a course of instruction. The work of the Social Service Department has been of great value in investigating and improving the conditions in homes. Many members of the medical staff have been called to active service in Europe.

Tuberculosis Hospital.—The Middlesex County Commissioners have voted to postpone until after the war the erection of the Middlesex County Tuberculosis Hospital in Waltham. The action was in accordance with the expressed wishes of the Capital Issues Committee of the Federal Reserve Board, Washington, which declared in favor of postponement on the ground that funds, labor, and materials should be conserved. The cost of the hospital has been estimated at $550,000.

Hospital Efficiency Methods.—Dr. John G. Bowman, executive director of the American College of Surgeons, and Rev. Charles B. Moulinier, president of the Catholic Hospital Association and chancellor of Marquette Medical

School of Milwaukee, are in Boston in the course of a tour of the country inculcating the methods and ideas of the American College of Surgeons, an organization composed of four thousand surgeons of the United States and Canada. The organization desires that hospitals practise efficiency methods used in the business world. The plan is that every hospital have a complete record of every surgical case, and that at regular intervals the staff of each hospital meet and go over the cases. The Association corresponds to the Royal College of Surgeons of England. The officers are: William J. Mayo, Minn., president; Rudolph Matas, New Orleans, first vice-president; Charles E. Kahle, Chicago, second vice-president; Franklin H. Martin, Chicago, secretary-general; John G. Bowman, Chicago, director; Albert J. Ochsner, Chicago, treasurer.

NEW ENGLAND NOTES.

MEDICAL REFEREES OF NEW HAMPSHIRE.—The following medical referees have been appointed in New Hampshire.

For Grafton County, Dr. John Wheeler of Plymouth, Dr. Lawrence of Haverhill, and Dr. Frederick von Tobel of Lebanon; for Merrimac County, Dr. Loren A. Sanders of Concord.

Rev. Frederick John J. Brophy of Penacook has been appointed to succeed Major James F. Brennan of Peterboro on the State Board of Charities and Correction, and Dr. Fred E. Clow of Wolfeboro has been appointed to the State Board of Registration in Medicine.

DR. DRUMMOND APPOINTED TO MAINE HEALTH COUNCIL.—Dr. Joseph B. Drummond of Portland has been nominated a member of the Public Health Council for four years, and also a member of the State Board for Regulating the Practice of Embalming.

PUTNAM MEMORIAL HOSPITAL.—The Henry W. Putnam Memorial Hospital was formally opened on May 30 at Bennington, Vt. On June 10, the hospital will be ready to receive patients. Henry W. Putnam of San Diego, Calif., a former resident, gave to the village the Bennington waterworks for the purpose of building and endowing the hospital. In April, 1916, Henry W. Putnam of New York, son of the founder of the association, made the organization a gift of $90,000.

The building has a frontage of 188 feet, with a central wing 98 feet in length. When all the facilities of the building are available, it will be a fifty-bed institution. At the present time, the nurses and officials will be quartered in the building and the number of private rooms will be limited. Plans have been secured for a nurses' home to be built on the grounds, but construction will be delayed because of the war.

VENEREAL DISEASE REPORTING.—The importance of reporting cases of venereal diseases is becoming recognized. In the April bulletin issued by the Massachusetts Society for Social Hygiene, the following article appears:

"Vermont is the first State to pass a law requiring that all cases of venereal diseases shall be reported by name direct to the State Board of Health. This law went into effect in 1915. New Jersey passed a similar law in 1917.

For years strenuous objections to the advisability of reporting venereal diseases have been quite general.

The last Report of the Royal Commission on Venereal Diseases considered these objections had some weight, but concluded that with the extension of popular knowledge it is possible that notification in some form will be demanded.

The confidential relation between patient and physician must be maintained, but society is as much entitled to a knowledge of the prevalence of the infectious diseases, syphilis and gonorrhea, as the other infectious diseases.

On December 18, 1917, the Public Health Council of the State Department of Health voted to add syphilis and gonorrhea to the list of diseases declared dangerous to the public health.

In 1915 the State of West Australia passed a statute on the notification of venereal diseases, and on this scheme as a basis the Massachusetts State Department of Health passed the following regulations governing the method of reporting gonorrhea and syphilis:

1. At the first visit the physician shall furnish to each patient treated or examined a numbered circular of information and advice.

2. The physician shall at this time fill out a numbered report blank attached to the circular of advice to be mailed to the State Department of Health.

The following facts are reported: Name of disease, age, sex, color, civil state, occupation,

duration of disease and degree of infectiousness. The name and address of the patient shall not be given.

3. When a patient with syphilis or gonorrhea in an infectious stage, applies to a physician for treatment, the physician shall ascertain whether the patient has received a numbered circular of advice; if not, the physician shall give him one and report the case to the State Health Department. If he has received a circular from another physician within the State, the last physician shall not report the case to the Health Department, but he shall ascertain the name and address of the first physician and notify him of the patient's change of medical adviser.

When a patient with gonorrhea or syphilis in an infectious stage fails to return to the treating physician for a period of six weeks later than the appointed time for treatment and the treating physician receives no notification of a change of physicians, he shall notify the State Department of Health, giving name and address of the patient, disease and serial number, date of report and name of physician who originally reported the case. On receipt of this report, the Department of Health will report the case, name and address to the Board of Health of the city or town of the patient's last address, as a person dangerous to the public. The name of the physician making this report shall not be given by the State Department of Health.

The Massachusetts Medical Society

PROGRAM OF THE ONE HUNDRED AND THIRTY-SEVENTH ANNIVERSARY.

ALL of the exercises of the anniversary will be held on Tuesday and Wednesday, June 18 and 19, 1918, at the Boston Medical Library, 8 The Fenway. Following is the entire body of the program:

GENERAL INFORMATION.

A BUREAU OF INFORMATION will be maintained by the Committee of Arrangements during Tuesday and Wednesday in the lobby of the Boston Medical Library, the headquarters of the Society.

ALL FELLOWS ARE REQUESTED TO REGISTER as early as possible at the Bureau of Information.

ALL GENERAL AND SECTION MEETINGS will be held at the Boston Medical Library. Parking space for automobiles, with supervision, will be provided. Inquire of the police officer in charge. The new elevator in the main hallway has been installed, and will be running.

By vote of the Council, February 6, 1918, the Annual Dinner will be omitted this year, because of war conditions.

The Boston Medical Library, 8 The Fenway, will be open for the inspection and use of the Fellows during the days of the meetings. An exhibit of early printed books and articles of interest to Fellows will be held in Holmes Hall.

The Harvard Medical School, 240 Longwood Avenue, and the Tufts College Medical School, 416 Huntington Avenue, will be open for inspection by the Fellows both Tuesday and Wednesday.

JUNE 18, 1918.

TUESDAY MORNING.

There will be clinics and operations on the surgical services, and ward visits on the medical services, at the following hospitals:

THE BOSTON CITY HOSPITAL.

Operations in the Surgical Amphitheatre and in the smaller operating rooms on the Surgical Floor, beginning at 10 o'clock.

Operations in the Gynecological Operating Rooms on Ward S and Ward H, by members of the Gynecological Staff, beginning at 10 o'clock.

Exhibition of cases on the Medical Wards, by members of the Medical Staff, beginning at 9.30.

BOSTON LYING-IN HOSPITAL.

Ward Visit at 10.30 a.m. Operations depending on material in hospital at the time.—Drs. J. B. Swift and H. V. Hyde.

Demonstration of Gas-Oxygen Anesthesia for Prenatal Examination, at 10.30 a.m.—Dr. R. S. Titus.

Regular Morning Prenatal Clinic at 4 McLean Street.—Dr. J. L. Huntington.

CARNEY HOSPITAL.

9-12. Operations will be performed by the Surgical Service, and a Medical Clinic will be held in the wards.

CHILDREN'S HOSPITAL.

9.30-10.00. Dr. Robert W. Lovett will demonstrate the Orthopedic Splints, and other apparatus in use in the United States Army.

10.30-11.30. Dr. John Lovett Morse.—A Visit in the Medical Wards.

11.30-12.30. Dr. W. E. Ladd.—Surgical Clinic in the Amphitheatre.

FREE HOSPITAL FOR WOMEN.

ROOM 1.

7.15 A.M. Dr. W. P. Graves.
Plastic and Coeliotomy for Prolapse.
Hysterectomy for Fibroid.
Coeliotomy for Retroversion.
Repair of Complete Laceration of Perineum.
Radium Application for Uterine Hemorrhage.

ROOM 2.

7.30 A.M. Dr. R. G. Wadsworth.
Plastic and Coeliotomy for Retroversion.

9.00 A.M. Dr. F. A. Pemberton.
Plastic and Coeliotomy for Prolapse.
Hysterectomy for Fibroid.
Coeliotomy for Retroversion.

INFANTS' HOSPITAL.

10.00 A.M. Chest Examination in Infancy, illustrated by cases and x-ray.

MASSACHUSETTS GENERAL HOSPITAL.
BIGELOW SURGICAL AMPHITHEATRE.
10.30 A.M.-11.30 A.M.

1. Demonstrations of Proteid Skin Reactions.—Dr. J. L. Goodale, Dr. John Turnbull.
2. Pernicious Anemia.—Dr. George R. Minot.
3. New Problems in the Old Field of Syphilis.—Dr. C. Morton Smith.
4. Remarks on X-ray Therapy.—Dr. G. W. Holmes.
5. Treatment of Splenic Anemia by Transfusion.—Dr. R. D. Curtis.

11.30 A.M.-1.00 P.M.
OPERATIONS BY THE SURGICAL STAFF.

PETER BENT BRIGHAM HOSPITAL.

10-12 A.M. Medical Service: Ward visits.—Dr. H. A. Christian.
9-12 A.M. Surgical Service: Operations in Surgical Building.—Drs. David Cheever and W. C. Quinby.

PSYCHOPATHIC HOSPITAL.

Members of the Society will be taken through the wards of the Psychopathic Hospital in small groups. A special clinic will be given in the Assembly Room for members of the Society at 10.30 a.m. Examples of major groups of mental disease will be briefly demonstrated, including cases.

The laboratories will be open for inspection, and charts, illustrative of the work of the hospital and of the Commission on Mental Diseases, will be on display.

ROBERT B. BRIGHAM HOSPITAL.

11 A.M. Dr. C. F. Painter will demonstrate cases illustrating the Treatment of Deformities Due to Chronic Arthritis, with emphasis on functional results.

Dr. C. H. Lawrence will speak on the question of Focal Infection in Chronic Arthritis.

ANNUAL MEETING OF THE SUPERVISORS.
BOSTON MEDICAL LIBRARY.
JOHN WARE HALL.
11.30 O'CLOCK.

TUESDAY NOON.

ANNUAL MEETING OF THE COUNCIL.
BOSTON MEDICAL LIBRARY.
JOHN WARE HALL.

TUESDAY AFTERNOON.

MEETING OF THE SECTION OF MEDICINE.
BOSTON MEDICAL LIBRARY.
SPRAGUE HALL.
2.30 O'CLOCK.

Officers of the Section of Medicine:
DR. WILLIAM H. SMITH, Boston, *Chairman.*
DR. GEORGE R. MINOT, Boston, *Secretary.*

1. The Relation of Food Idiosyncrasies to the Diseases of Childhood.—Dr. Fritz B. Talbot, Boston.
2. A Clinical Study of Four Hundred Patients with Bronchial Asthma.—Dr. I. C. Walker, Boston.
3. The Present Status of Immunization in Hay Fever.—Dr. J. L. Goodale, Boston.

(Lieut. Francis M. Rackemann, M.R.C., Boston, will also present a paper on Asthma, if military duties permit.)

The discussion of these papers will be opened by Dr. David L. Edsall, Boston.

4. The Pathogenicity of Non-hemolytic Streptococci.—Dr. S. Burt Wolbach, Boston.

TUESDAY AFTERNOON.

MEETING OF THE SECTION OF SURGERY.
BOSTON MEDICAL LIBRARY.
JOHN WARE HALL.
2.30 O'CLOCK.

Officers of the Section of Surgery:
DR. JOHN HOMANS, Brookline, *Chairman.*
DR. HILBERT F. DAY, Boston, *Secretary.*

1. Suspension and Traction Treatment of Fractures in Base Hospital Work and the Application of This Method in Civil Practice.—Dr. George A. Moore, Brockton.
2. Tetanus in the War: Progress in Prevention and Treatment.—Dr. C. A. Porter, Boston.
3. Some Observations on War Surgery in France.—Dr. W. Irving Clark, Worcester.
4. Discussion of Empyema and Its Treatment in Military Cantonments during the Winter of 1917-1918.—Major Homer Gage, M.R.C., Worcester.
5. Moving Pictures of the Application of Standard Splints in Trench and Front Line Dressings, with Discussion.—Major Kendall Emerson, M.R.C., Worcester.

TUESDAY AFTERNOON.

MEETING OF THE SECTION OF TUBERCULOSIS.
BOSTON MEDICAL LIBRARY.
REAR UPPER HALL.
2.30 O'CLOCK.

Officers of the Section of Tuberculosis:
DR. WALTER G. PHIPPEN, Salem, *Chairman.*
DR. JOHN B. HAWES, 2d, Boston, *Secretary.*

SYMPOSIUM ON THE MASSACHUSETTS PLAN FOR CARING FOR CONSUMPTIVES.

1. The State Tuberculosis Sanatoria, and What They Aim to Do.—Dr. Arthur K. Stone, Framingham Centre, Chairman Board of Trustees, Mass. Hospitals for Consumptives.
   Discussion by Dr. W. P. Bowers, Clinton; Dr. E. R. Kelley, Boston; Dr. E. B. Emerson, Rutland.
2. County Tuberculosis Hospitals.—Dr. Olin S. Pettingill, Supt. Essex County Sanatorium.
   Discussion by Dr. B. H. Peirce, Cambridge; Dr. A. J. Roach, Tewksbury; Dr. A. S. MacKnight, Fall River.
3. Local Municipal Tuberculosis Hospitals.—Dr. Edwin A. Locke, Chief of Staff, Boston Consumptives' Hospital.
   Discussion by Dr. P. C. Devlin, Lynn; Dr. R. A. Rice, Fitchburg; Dr. R. W. Hastings, Brookline.

4. The Dispensary System and Follow-up Work.—Dr. John S. Hitchcock, Northampton, Director Division of Communicable Diseases, State Department of Health.
Discussion by Dr. E. O. Otis, Boston; Dr. G. A. Buckley, Brockton; Dr. S. Hoberman, Malden.

TUESDAY EVENING.

THE SHATTUCK LECTURE.

BOSTON MEDICAL LIBRARY.

JOHN WARE HALL.

8 O'CLOCK.

By DR. E. E. SOUTHARD, Cambridge, Professor of Neuropathology, Harvard Medical School.
Subject: Shell-Shock and After.
After the lecture, light refreshments will be served in the Supper Room.

JUNE 19, 1918.

WEDNESDAY MORNING.

ONE HUNDRED AND THIRTY-SEVENTH ANNIVERSARY.

BOSTON MEDICAL LIBRARY.

JOHN WARE HALL.

9.30 O'CLOCK.

Business of the Annual Meeting.

The papers will be devoted to "Certain Aspects of Reconstruction Work in Connection with the War."
Col. E. G. Brackett, M.C., N.A.
Major A. B. Kanavel, M.R.C.
Major H. E. Mock, M.R.C.
Major H. D. Jump, M.R.C.
It is expected that Sir William Arbuthnot Lane, consulting surgeon to Guy's Hospital, Sir James Mackenzie, physician to the London Hospital, and Col. Herbert A. Bruce, consulting surgeon of the British Armies in France, now in this country, will be present and will address the meeting.

WEDNESDAY NOON.

BOSTON MEDICAL LIBRARY.

JOHN WARE HALL.

The Annual Discourse will be delivered by DR. MYLES STANDISH, Boston.
Subject: "The Socialization of the Practice of Medicine."

WEDNESDAY AFTERNOON.

MEETING OF THE SECTION OF HOSPITAL ADMINISTRATION.

BOSTON MEDICAL LIBRARY.

SPRAGUE HALL.

2.30 O'CLOCK.

Officers of the Section of Hospital Administration:
DR. HOMER GAGE, Worcester, *Chairman.*
DR. CHANNING C. SIMMONS, Boston, *Secretary.*

1. Hospital Standardization: What It Means.—Dr. John T. Bottomley, Boston.
2. The Administration of a Military Base Hospital and Its Comparison with a Civil Hospital.—Lieut. Col. Channing Frothingham, M.C., N.A.
Discussion opened by R. B. Greenough, Surgeon, U.S.N.R.F.
3. The Need of Systematic Teaching of Hospital Internes.—Dr. E. H. Bradford, Boston.
Discussion opened by Dr. C. A. Porter, Boston.
4. Case Histories in Municipal, County, and Other Hospitals of Less Than One Hundred Beds.—Miss Mary Riddle, Supt. Newton Hospital.
Discussion opened by Dr. W. P. Bowers, Clinton.
5. Social Service and Follow-up Work.—Dr. Richard M. Smith, Boston.
Discussion opened by Mr. Michael M. Davis, Jr., Supt. Boston Dispensary.

WEDNESDAY AFTERNOON.

COMBINED MEETING OF THE SECTIONS OF MEDICINE AND SURGERY.

BOSTON MEDICAL LIBRARY.

JOHN WARE HALL.

2.30 O'CLOCK.

Chairmen: DR. WILLIAM H. SMITH, Boston; DR. JOHN HOMANS, Brookline.
Secretaries: DR. GEORGE R. MINOT, Boston; DR. HILBERT F. DAY, Boston.

1. The Treatment of Pregnancy and Labor Complicated by Cardiac Lesions.—Dr. F. S. Newell, Boston.
2. Heart Lesions in Anesthesia.—Dr. F. L. Richardson, Boston.
3. The Normal Heart in the Navy.—G. F. Freeman, Medical Inspector, U.S.N.
4. The Consideration of Infections of the Nose and Throat as an Etiological Factor in Endocarditis.—Dr. George L. Tobey, Jr., Boston.
5. The Use of the X-ray in the Examination of the Heart and Aorta.—Dr. George W. Holmes, Newton.

The discussion of these papers will be opened by Dr. Henry A. Christian, Boston.

Miscellany.

DRUG ADDICTION.*

For some time past the prevalence of drug addiction has been regarded as a serious public health menace by persons who have given the matter any consideration. The evil became so widespread that federal, state and municipal authorities have attempted to deal with it by drastic legislation; apparently this has failed, for the whole subject has recently been subject to state investigation to discover just what is needed to control the evil. The chief points now under discussion and investigation relate to the causes and prevalence of drug addiction; the problems of relief and cure of the habit; and measures destined to safeguard and control the dispensing of habit-forming drugs.

The matter has recently been studied by the Public Health Committee of the New York Academy of Medicine and the New York Psychiatric Society, with the result that the following recommendations have been formulated:

Public Health Committee, Academy of Medicine and New York Psychiatric Society.

1. We recommend that the Federal Government take such measures as are feasible to abolish the manufacture of heroin altogether.

2. We recommend that the Federal Government be urged to adopt such legislative measures as will control and regulate the sale and distribution of opium and its derivatives and of cocain, from the

* From the weekly bulletin of the New York Health Department.

time of its manufacture to the time of its final distribution; also, that it take measures to prevent the importation of these drugs except under proper conditions.

3. We recommend that the Federal Government do not at present extend its jurisdiction to the control of all habit-forming drugs, but that the control of special drugs be taken up as occasion seems to demand. Experience in New York City and the East shows that there is no great prevalence of drug habit aside from that of opium and its derivatives.

4. We recommend that a thorough study be made of the extent and causes of drug addiction, such studies, for example, as will give information as to the age, sex, occupation and environment, and the mental and physical condition of victims of the drug habit, and as to how their habit was formed.

With regard to the cause and frequency of the habit, we can make only provisional statements. So far as our knowledge goes, the drug habits formed as the result of long and painful sickness, as the result of painful surgical operations, and as the result of mental causes, like sorrow, depression and apprehensive states, constitute at present as in the past, a negligible proportion of the total.

The habit has largely been formed in recent years by association and imitation, by boys and young men and women who are often quite ignorant of the dangers of the habit. Examination of a long series of addicts at Bellevue Hospital shows that about four per cent. formed the habit through the advice and prescription of unscrupulous physicians who utilize what is known as the reduction treatment as a cover for the reprehensible practice.

So far as the number of addicts is concerned, we find some estimates by Martin T. Wilbert, United States Public Health Service Bulletin No. 321, to the effect that there are now over 175,000 addicts in the country. Estimates made by Dr. Kirby show that there would be perhaps 7,000 to 8,000 in Greater New York. Dr. Kirby's estimates are based on the statistics of Bellevue, Metropolitan and Kings County Hospitals, and on the reports from the hospitals of the Department of Correction.

There is an impression among some that the drug-addiction is *enormously prevalent* and is *growing rapidly* and becoming a serious menace to society. It is extremely important to find out the truth as to this. The Public Health Service states that about four million grains less of opium were imported into the United States in 1915 than in 1914, and about five million less than in 1913, but this may be due to the war.

5. We recommend that psychological and psychiatrical tests be made of a long and definite series of addicts.

No serious and comprehensive study of these problems has yet been made so far as we can find. Such information upon the subject of drug addiction can be gathered best through the agency of paid experts who will visit hospitals, courts, prisons and reformatories and who will interview such physicians and judges as are experienced in these matters.

6. We recognize that the surgeon-generals of the Army and Navy have taken a special interest in the subject of drug addiction. We recommend that if it has not already been done, some special study be made of the condition of drug addiction in the Army and Navy and that special care be taken to discover the existence of addiction in recruits. We understand that the Surgeon-Generals of the Army and Navy are already making special provision for the care and treatment of drug addicts.

7. We recommend that an attempt be made to plan some means of education of young men and women as to the dangers of habit-forming drugs. We advise the use of "movies" or any sensational methods.

8. We recommend that more attention and publicity be given to the facts which appear to have been established by long experience at Bellevue Hospital and elsewhere. The experience at Bellevue Hospital, after testing with many cures, shows that the drug can be withdrawn from the victim without any special cure being used, and it seems to be established that withdrawal can almost always be done safely and surely under ordinary hospital conditions where there is competent nursing and control.

9. We recommend very strongly that treatment for drug addiction should be given to patients only in properly organized hospitals or under institutional conditions, for it is the experience and conviction of all that drug addiction can be relieved and cured best in this way.

10. We recommend that the State do not at present undertake the cure of drug addiction, because the treatment and the subsequent plan of coöperative contact required for success is long, expensive and difficult unless carried out in the local community itself, and the State is not now equipped to undertake such work.

We recommend that in preference to this, at the present time the State do what it can to prevent the development of new cases and encourage provision for the relief of present sufferers.

11. We recommend, for the relief of present sufferers, and perhaps at times for radical treatment, the use of psychopathic hospitals or pavilions, and that special provisions be made in general hospitals throughout the State to care, under proper control, for those who ask for a withdrawal treatment. This we think, is what is due the patient who by law is deprived of the drug.

12. Finally, pending action by the Federal Government for the better control of habit-forming drugs, we recommend that the State of New York enact some law which will control the matter of drug addiction and the use of drugs by physicians in a better, more efficient and more practical way than does the present law. We leave the definite solution of this as a separate problem in technical legislation.

SOCIETY NOTICE.

HARVARD MEDICAL ALUMNI ASSOCIATION.—The annual meeting of the Harvard Medical Alumni Associaflon will be held this year at the time of the meeting of The Massachusetts Medical Society, on Wednesday, June 19 at 2 P.M., in Sprague Hall, Boston Medical Library.

Graduates of the Harvard Medical School are requested to be present. Business: Reports and election of officers.

Graduates of the Harvard Medical School are invited to be present at the Alumni Spread at Cambridge on Commencement Day, June 20, at 12 o'clock.

JAMES B. AYER, *Secretary.*

RECENT DEATHS.

DR. AURELIA SPRINGER, of Lewiston, Maine, aged 82, died at Central Maine General Hospital on June 3, Dr. Springer was born in Dresden, Maine, and had studied medicine both in this country and abroad.

CHARLES FRANKLIN OSMAN, M.D., died at his home in Dorchester, March 9, 1918, aged 62 years.

DR. JOHN PERRINS, of Boston, died on May 18th, at the age of 80 years. He was a native of Birmingham, England. He began the study of medicine in England and continued his studies in the United States at the Cincinnati, Ohio, Eclectic College. Dr. Perrins was a member of the Massachusetts Eclectic Medical Society and the Boston District Eclectic Society.